SAMSUNG

# User Manual

EB40D EB48D

The color and the appearance may differ depending on the product, and the specifications are subject to change without prior notice to improve the performance.

Recommended hours of use per day of this product is under 16 hours.

If the product is used for longer than 16 hours a day, the warranty may be void.

# Table of contents

## Before Using the Product


**Copyright** **6**

**Safety Precautions** **7**
Symbols 7
Cleaning 7
**Storage** **8**
Electricity and Safety 8
Installation 9
Operation 11


## Preparations


**Checking the Components** **15**

**Parts** **17**
Control Panel 17
Reverse Side 19
Anti-theft Lock 20
Remote Control 21

**Before Installing the Product (Installation Guide)** **23**
Tilting Angle and Rotation 23
Ventilation 23

**Dimensions** **24**

**Installing the Wall Mount** **25**
Wall Mount Kit Specifications 26

**Remote Control (RS232C)** **27**
Cable Connection 27
Connection 28
Control Codes 29


## Connecting and Using a Source Device


**Before Connecting** **35**
Pre-connection Checkpoints 35

**Connecting to a PC** **35**
Connection using the D-SUB cable (Analog type) 35
Connection Using an HDMI Cable 36
Connection Using an HDMI-DVI Cable 36

**Connecting to a Video Device** **37**
Connection Using the AV Cable 37
Connection Using an HDMI-DVI Cable 38
Connection Using an HDMI Cable 38

**Connecting the Antenna** **39**

**Initial Setup** **40**

**Changing the Input source** **40**
**Source List** **40**


## Using MDC


**MDC Program Installation/Uninstallation** **41**
Installation 41
Uninstallation 41

**Connecting to MDC** **42**
Using MDC over RS232C connections and Wi-Fi 42


## Screen Adjustment


**Picture Mode** **43**
If the input source is PC or HDMI (when a PC is connected) 43
If the input source is TV, HDMI or AV 43

**Backlight / Contrast / Brightness / Sharpness / Color / Tint (G/R)** **44**

**Picture Size** **45**
Picture Size 45
Position 47
Zoom/Position 47
Resolution 48

**Auto Adjustment** **49**

**PC Screen Adjustment** **49**

**PIP** **50**
PIP Settings 50

**Advanced Settings** **51**
Dynamic Contrast 52

# Table of contents


Black Tone 52
Flesh Tone 52
RGB Only Mode 52
Color Space 52
White Balance 53
Gamma 53
Motion Lighting 53

**Picture Options 54**
Color Tone 55
Color Temp. 55
Digital Clean View 55
MPEG Noise Filter 55
HDMI Black Level 56
Film Mode 56
Dynamic Backlight 56

**Picture Off 57**

**Reset Picture 57**


## Sound Adjustment


**Sound Mode 58**

**Sound Effect 59**

**Speaker Settings 60**

**Additional Settings 61**
DTV Audio Level 61
Dolby Digital Comp 61

**Reset Sound 62**


## Broadcasting


**Auto Tuning 63**

**Antenna 64**

**Channel List 65**
Mode 65

**Guide 66**

**Schedule Manager 67**

**Edit Channel 68**

**Edit Favorites 70**

**Channel Settings 73**
Digital Manual Tuning 73
Fine Tune 73
Color System 73

**Subtitle 74**
Subtitle 74
Primary Subtitle 74
Secondary Subtitle 74

**Caption 75**
Caption 75

**Audio Options 77**
Multi-Track Sound 77
Audio Language 77
Audio Format 77

**Channel Lock 78**


## Network


**Network Status 79**

**Network Settings 79**
Network Setting (Wireless) 80
WPS(PBC) 82

**Soft AP (Wi-Fi Hotspot) 83**

**Wi-Fi Direct 84**

**AllShare Settings 85**

**Device Name 85**


## Applications


**Source List 86**

**MagicInfo 87**
Schedule 88


## MagicInfo Express Content Creator


**Using MagicInfo Express Content Creator 90**
Managing templates 90
Managing schedules 90

# Table of contents

## Playing photos, videos and music (Media Play)


**Read the following before using media play with a USB device** **91**
Using a USB device 93
Menu items in the media content list page 94

**Available buttons and features during photo playback** **95**

**Available buttons and features during video playback** **96**

**Available buttons and features during music playback** **97**

**Supported Subtitle and Media play file formats** **98**
Subtitle 98
Compatible image file format 98
Supported music file formats 99
Supported Video Formats 99


## System


**Setup** **102**
Initial settings (Setup) 102

**Menu Language** **104**

**Multi Control** **105**
Configuring settings for Multi Control 105

**Time** **106**
Clock 106
Sleep Timer 107
On Timer 107
Holiday Management 108
MagicInfo On/Off Timer 109

**Eco Solution** **110**
Energy Saving 110
Eco Sensor 110
No Signal Power Off 111
Auto Power Off 111

**Auto Protection Time** **112**

**Screen Burn Protection** **113**
Pixel Shift 113
Timer 114
Immediate Display 116
Side Gray 116

**Ticker** **117**
Ticker 117

**Source AutoSwitch Settings** **118**
Source AutoSwitch 118

**General** **119**
Game Mode 119
Auto Power 119
Safety Lock 119
Button Lock 119
USB Auto Play Lock 120
Standby Control 120
Lamp Schedule 120
OSD Display 120
AV Color System 121

**Change PIN** **122**

**Clone Product** **123**

**Reset System** **123**

**Reset All** **124**

**DivX® Video On Demand** **124**


## Support


**Software Update** **125**
Update now 125

**Contact Samsung** **125**


## Troubleshooting Guide


**Requirements Before Contacting Samsung Customer Service Center** **126**
Testing the Product 126
Checking the Resolution and Frequency 126
Check the followings. 127

**Q & A** **133**

# Table of contents

## Specifications


**General** **135**

**Power Consumption** **137**

**Preset Timing Modes** **138**


## Appendix


**Responsibility for the Pay Service (Cost to Customers)** **140**

Not a product defect 140

A Product damage caused by customer's fault 140

Others 140

**Optimum Picture Quality and Afterimage Burn-in Prevention** **141**

Optimum Picture Quality 141

Prevention of Afterimage Burn-in 141

**License** **143**

**Terminology** **144**

# Chapter 01
# Before Using the Product

## Copyright

The contents of this manual are subject to change without notice to improve quality.

© 2014 Samsung Electronics

Samsung Electronics owns the copyright for this manual.

Use or reproduction of this manual in parts or entirety without the authorization of Samsung Electronics is prohibited.

Microsoft, Windows are registered trademarks of Microsoft Corporation.

VESA, DPM and DDC are registered trademarks of the Video Electronics Standards Association.

Ownership of all other trademarks is attributed to their due owner.

# Safety Precautions

## Caution

RISK OF ELECTRIC SHOCK DO NOT OPEN

Caution : TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER. (OR BACK)

THERE ARE NO USER SERVICEABLE PARTS INSIDE.

REFER ALL SERVICING TO QUALIFIED PERSONNEL.

This symbol indicates that high voltage is present inside.

It is dangerous to make any kind of contact with any internal part of this product.

This symbol alerts you that important literature concerning operation and maintenance has been included with this product.

## Symbols

### Warning

A serious or fatal injury may result if instructions are not followed.

### Caution

Personal injury or damage to properties may result if instructions are not followed.

Activities marked by this symbol are prohibited.

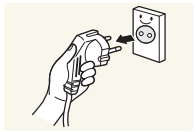
Instructions marked by this symbol must be followed.

## Cleaning

— Exercise care when cleaning as the panel and exterior of advanced LCDs are easily scratched.

— Take the following steps when cleaning.

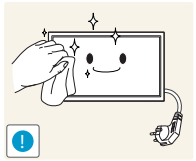
— The following images are for reference only. Real-life situations may differ from what is shown in the images.



1 Power off the product and computer.

2 Disconnect the power cord from the product.

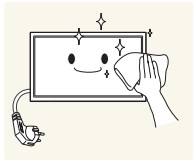
— Hold the power cable by the plug and do not touch the cable with wet hands. Otherwise, an electric shock may result.



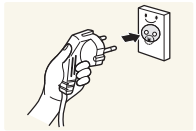
3 Wipe the product with a clean, soft and dry cloth.

- Do not use detergents that contain alcohol, solvent or surface-active agents.

- Do not spray water or detergent directly on the product.



4 Wet a soft and dry cloth in water and wring thoroughly to clean the exterior of the product.



5 Connect the power cord to the product when cleaning is finished.

6 Power on the product and computer.

## Storage

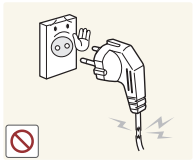
Due to the characteristics of high-glossy products, using a UV humidifier nearby may create white-colored stains on the product.

— Contact Customer Service Center if the inside of the product needs cleaning (service fee will be charged).

## Electricity and Safety

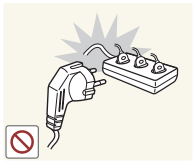
— The following images are for reference only. Real-life situations may differ from what is shown in the images.

**Warning**



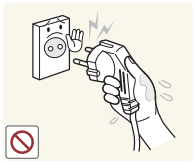
Do not use a damaged power cord or plug, or a loose power socket.

- An electric shock or fire may result.

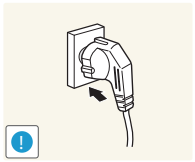


Do not use multiple products with a single power socket.

- Overheated power sockets may cause a fire.

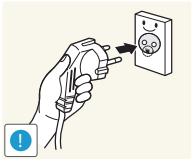


Do not touch the power plug with wet hands. Otherwise, an electric shock may result.



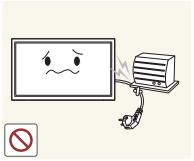
Insert the power plug all the way in so it is not loose.

- An unsecure connection may cause a fire.



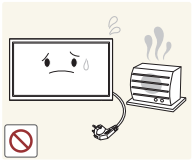
Connect the power plug to a grounded power socket (type 1 insulated devices only).

- An electric shock or injury may result.



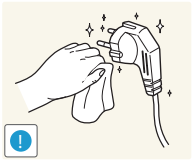
Do not bend or pull the power cord with force. Be careful not to leave the power cord under a heavy object.

- Damage to the cord may result in a fire or electric shock.



Do not place the power cord or product near heat sources.

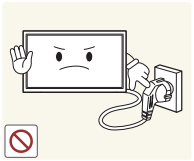
- A fire or electric shock may result.



Clean any dust around the pins of the power plug or the power socket with a dry cloth.

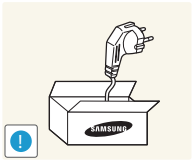
- A fire may result.

## Caution



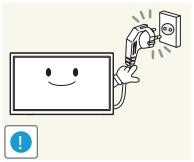
Do not disconnect the power cord while the product is being used.

- The product may become damaged by an electric shock.



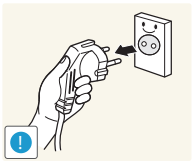
Only use the power cord provided with your product by Samsung. Do not use the power cord with other products.

- A fire or electric shock may result.



Keep the power socket where the power cord is connected unobstructed.

- The power cord must be disconnected to cut off power to the product when an issue occurs.
- Note that the product is not completely powered down by using only the power button on the remote.



Hold the plug when disconnecting the power cord from the power socket.

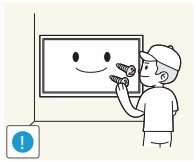
- An electric shock or fire may result.

# Installation

## Warning

DO NOT PLACE CANDLES, INSECT REPELLANTS OR CIGARETTES ON TOP OF THE PRODUCT. DO NOT INSTALL THE PRODUCT NEAR HEAT SOURCES.

- A fire may result.

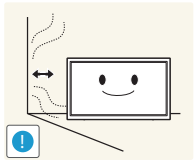


Have a technician install the wall-mount hanger.

- Installation by an unqualified person can result in an injury.
- Only use approved cabinets.

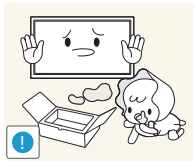
Do not install the product in poorly ventilated spaces such as a bookcase or closet.

- An increased internal temperature may cause a fire.



Install the product at least 10 cm away from the wall to allow ventilation.

- An increased internal temperature may cause a fire.

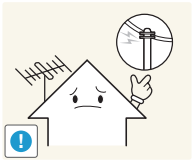


Keep the plastic packaging out of the reach of children.

- Children may suffocate.

Bend and keep part of the outdoor TV antenna cable hanging downwards (the part inside the room) to prevent rainwater from entering the product.

- If rainwater enters the product, a fire or electric shock can occur.

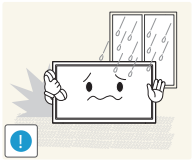


When using an outdoor antenna, be sure to install the antenna away from nearby power lines to prevent the antenna from collapsing onto them in strong winds.

- A collapsed antenna can cause an electric shock or injury.

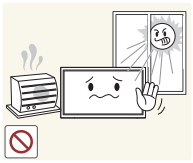
Do not install the product on an unstable or vibrating surface (insecure shelf, sloped surface, etc.)

- The product may fall and become damaged and/or cause an injury.
- Using the product in an area with excess vibration may damage the product or cause a fire.



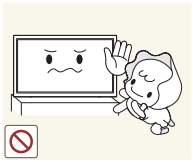
Do not install the product in a vehicle or a place exposed to dust, moisture (water drips, etc.), oil, or smoke.

- A fire or electric shock may result.



Do not expose the product to direct sunlight, heat, or a hot object such as a stove.

- The product lifespan may be reduced or a fire may result.

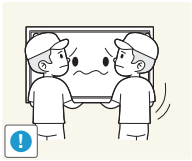


Do not install the product within the reach of young children.

- The product may fall and injure children.
- As the front is heavy, install the product on a flat and stable surface.

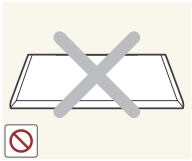
Edible oil, such as soybean oil, can damage or deform the product. Do not install the product in a kitchen or near a kitchen counter.

## Caution



Do not drop the product while moving.

- Product failure or personal injury may result.

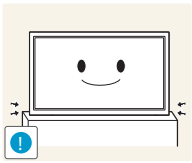


Do not set down the product on its front.

- The screen may become damaged.

When installing the product on a cabinet or shelf, make sure that the bottom edge of the front of the product is not protruding.

- The product may fall and become damaged and/or cause an injury.
- Install the product only on cabinets or shelves of the right size.



Set down the product gently.

- Product failure or personal injury may result.

Installing the product in an unusual place (a place exposed to a lot of fine dust, chemical substances, extreme temperatures or a significant presence of moisture, or a place where the product will operate continuously for an extended period of time) may seriously affect its performance.

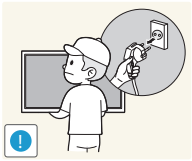
- Be sure to consult Samsung Customer Service Center if you want to install the product at such a place.

# Operation

## Warning

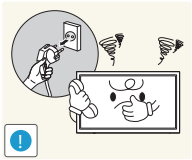
There is a high voltage inside the product. Never disassemble, repair or modify the product yourself.

- A fire or electric shock may result.
- Contact Samsung Customer Service Center for repairs.



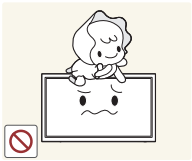
To move the product, first disconnect all the cables from it, including the power cable.

- Damage to the cord may result in a fire or electric shock.



If the product generates abnormal sounds, a burning smell or smoke, disconnect the power cord immediately and contact Samsung Customer Service Center.

- An electric shock or fire may result.

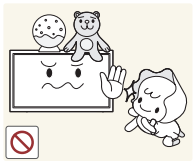


Do not let children hang from the product or climb on top of it.

- Children may become injured or seriously harmed.

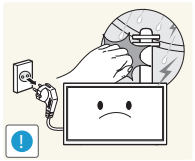
If the product is dropped or the outer case is damaged, turn off the power switch and disconnect the power cord. Then contact Samsung Customer Service Center.

- Continued use can result in a fire or electric shock.



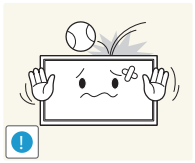
Do not leave heavy objects or items that children like (toys, sweets, etc.) on top of the product.

- The product or heavy objects may fall as children try to reach for the toys or sweets resulting in a serious injury.



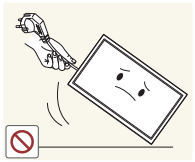
During a lightning or thunderstorm, remove the power cable and do not touch the antenna cable.

- A fire or electric shock may result.



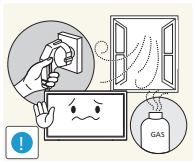
Do not drop objects on the product or apply impact.

- A fire or electric shock may result.



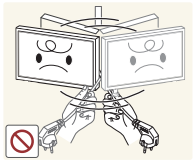
Do not move the product by pulling the power cord or any cable.

- Product failure, an electric shock or fire may result from a damaged cable.



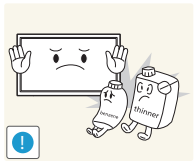
If a gas leakage is found, do not touch the product or power plug. Also, ventilate the area immediately.

- Sparks can cause an explosion or fire.



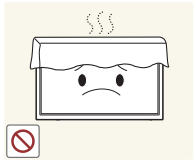
Do not lift or move the product by pulling the power cord or any cable.

- Product failure, an electric shock or fire may result from a damaged cable.



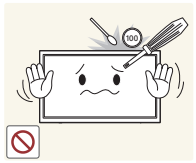
Do not use or keep combustible spray or an inflammable substance near the product.

- An explosion or fire may result.



Ensure the vents are not blocked by tablecloths or curtains.

- An increased internal temperature may cause a fire.



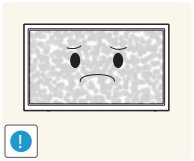
Do not insert metallic objects (chopsticks, coins, hairpins, etc) or objects that burn easily (paper, matches, etc) into the product (via the vent or input/output ports, etc).

- Be sure to power off the product and disconnect the power cord when water or other foreign substances have entered the product. Then contact Samsung Customer Service Center.
- Product failure, an electric shock or fire may result.

Do not place objects containing liquid (vases, pots, bottles, etc) or metallic objects on top of the product.

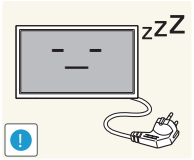
- Be sure to power off the product and disconnect the power cord when water or other foreign substances have entered the product. Then contact Samsung Customer Service Center.
- Product failure, an electric shock or fire may result.

## Caution



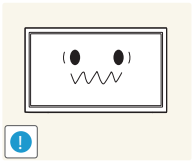
Leaving the screen fixed on a stationary image for an extended period of time may cause afterimage burn-in or defective pixels.

- Activate power-saving mode or a moving-picture screen saver if you will not be using the product for an extended period of time.



Disconnect the power cord from the power socket if you do not plan on using the product for an extended period of time (vacation, etc).

- Dust accumulation combined with heat can cause a fire, electric shock or electric leakage.

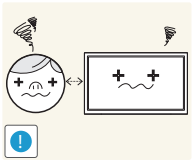


Use the product at the recommended resolution and frequency.

- Your eyesight may deteriorate.

Do not hold the product upside-down or move it by holding the stand.

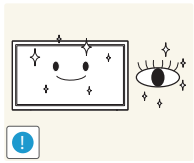
- The product may fall and become damaged or cause an injury.



Looking at the screen too close for an extended period of time can deteriorate your eyesight.

Do not use humidifiers or stoves around the product.

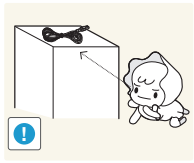
- A fire or electric shock may result.



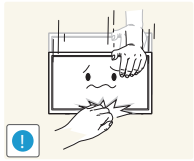
Rest your eyes for more than 5 minutes for every 1 hour of product use.

- Eye fatigue will be relieved.

Do not touch the screen when the product has been turned on for an extended period of time as it will become hot.

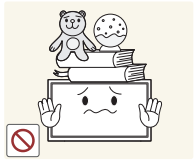


Store small accessories out of the reach of children.



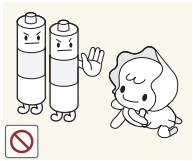
Exercise caution when adjusting the product angle or stand height.

- Your hand or finger may get stuck and injured.
- Tilting the product at an excessive angle may cause the product to fall and an injury may result.



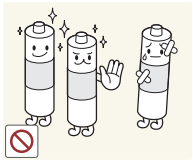
Do not place heavy objects on the product.

- Product failure or personal injury may result.



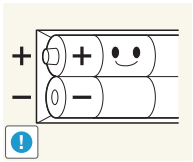
Be careful that children do not place the battery in their mouths when removed from the remote control. Place the battery in a location that children or infants cannot reach.

- If children have had the battery in their mouths, consult your doctor immediately.



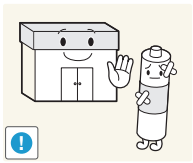
When replacing the battery, insert it with the right polarity (+, -).

- Otherwise, the battery may become damaged or it may cause fire, personal injury or damage due to leakage of the internal liquid.



Use only the specified standardized batteries, and do not use a new battery and a used battery at the same time.

- Otherwise, the batteries may be damaged or cause fire, personal injury or damage due to a leakage of the internal liquid.



The batteries (and rechargeable batteries) are not ordinary refuse and must be returned for recycling purposes. The customer is responsible for returning the used or rechargeable batteries for recycling.

- The customer can return used or rechargeable batteries to a nearby public recycling center or to a store selling the same type of the battery or rechargeable battery.

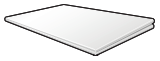
# Chapter 02
# Preparations

## Checking the Components

- Contact the vendor where you purchased the product if any components are missing.
- The appearance of the components and items sold separately may differ from the image shown.

### Components

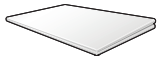
— Components may differ in different locations.



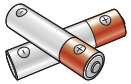
Quick Setup Guide

Warranty card

(Not available in some locations)



Regulatory guide

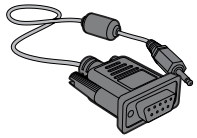


Batteries

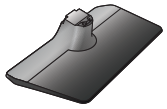
(Not available in some locations)

Remote Control

Power cord



RS232C-Stereo cable

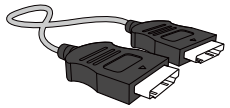


Stand base

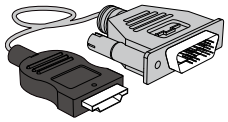
Stand neck

## Items sold separately

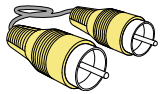
– The following items can be purchased at your nearest retailer.



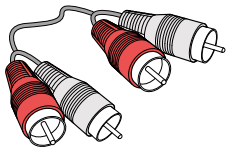
HDMI cable



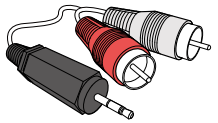
HDMI-DVI cable



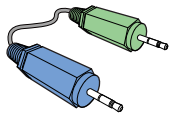
Video cable



Audio cable



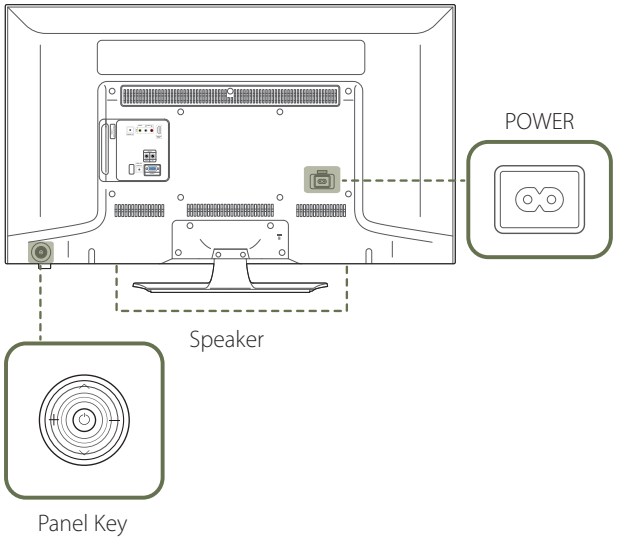
RCA stereo cable

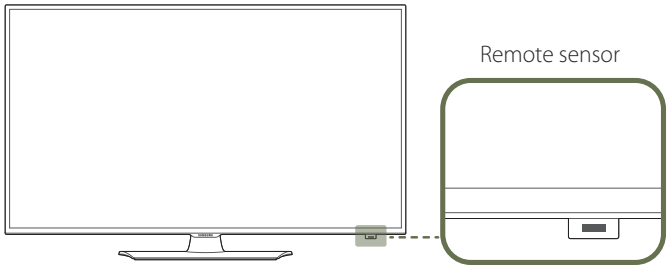


Stereo cable

# Parts

## Control Panel




— The color and shape of parts may differ from what is shown.
Specifications are subject to change without notice to improve quality.

### Panel Key

| Buttons | Description |
|---|---|
| | Power on the product.<br>If you press the ⏻ button when the product is turned on, the control menu will be displayed.<br>— To exit the OSD menu, press and hold the panel key for at least one second. |
| | Move to the upper or lower menu. You can also adjust the value of an option.<br>Change the channel in **TV** mode. |
| | Move to the left or right menu.<br>— You can adjust the volume by moving the panel key left or right when the control menu is not displayed. |
| **Remote sensor** | Press a button on the remote control pointing at the sensor on the front of the product to perform the corresponding function.<br>— Using other display devices in the same space as the remote control of this product can cause the other display devices to be inadvertently controlled. |

Use the remote control within 7 m to 10 m from the sensor on the product at an angle of 30° from the left and right.

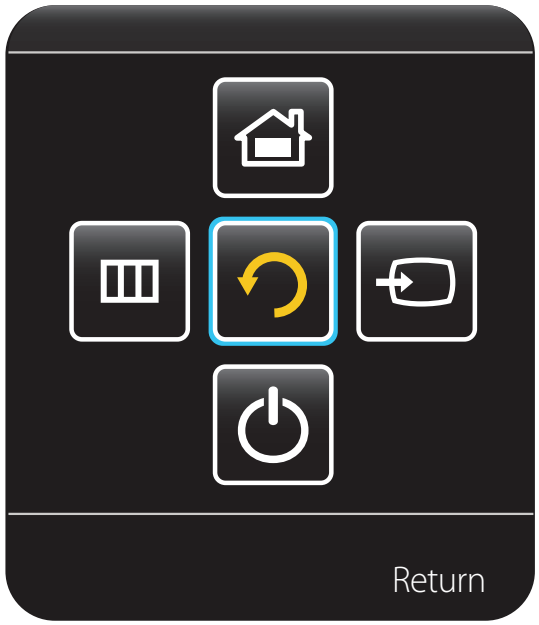
— Store used batteries out of reach of children and recycle.

— Do not use a new and used battery together. Replace both batteries at the same time.

— Remove batteries when the remote control is not to be used for an extended period of time.

If you press the ⏻ button on the panel key when the product is turned on, the control menu will be displayed.

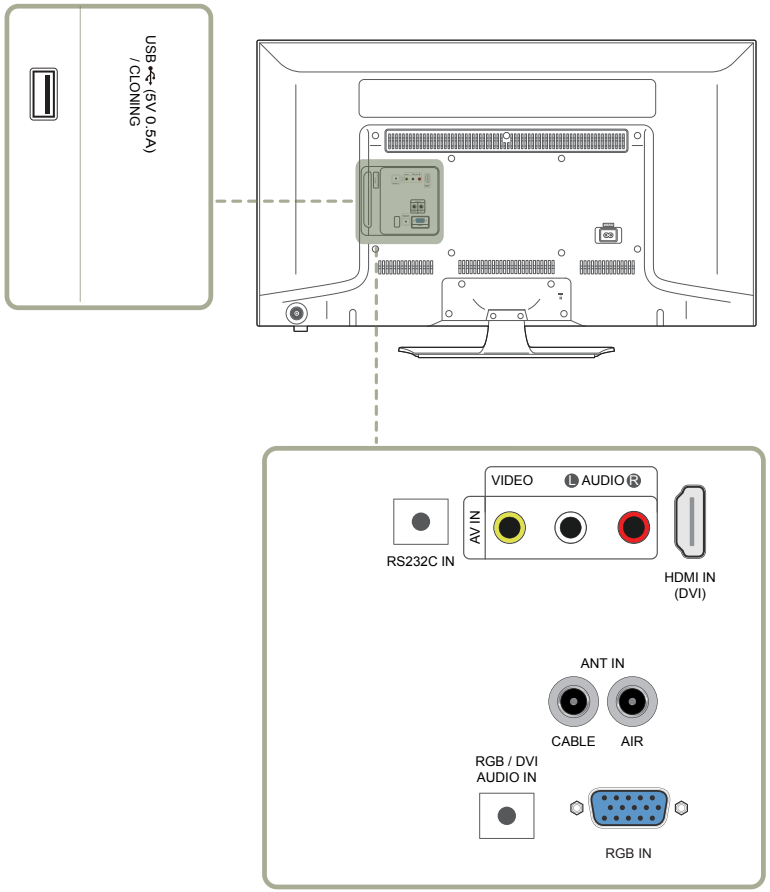
## Control menu




| Buttons | | Description |
|---|---|---|
| | **Source** | Select the connected input source.<br>Move the panel key right to select **Source** in the control menu.<br>When the list of input sources is displayed, move the panel key up or down to select the desired input source. Next, press the panel key. |
| | **Menu** | Display the OSD menu.<br>Move the panel key left to select **Menu** in the control menu. The OSD control screen will appear. Move the panel key right to select the desired menu.<br>You can select a sub-menu item by moving the panel key up, down, left, or right.<br>To change settings, select the desired menu and press the panel key. |
| | **MagicInfo** | Enter **MagicInfo** mode.<br>Move the panel key up to select **MagicInfo** in the control menu. |
| | **Power Off** | Power off the product.<br>Move the panel key down to select **Power Off** in the control menu.<br>Next, press the panel key. |
| | **Return** | Exit the control menu. |

# Reverse Side

The color and shape of parts may differ from what is shown.
Specifications are subject to change without notice to improve quality.




| Port | Description |
|---|---|
| **USB (5V 0.5A) / CLONING** | Connect to a USB memory device. |
| **RS232C IN** | Connects to MDC using an RS232C adapter. |
| **AV IN VIDEO / L-AUDIO-R** | Connect to an external device using a video or Audio cable. |
| **RGB / DVI AUDIO IN** | Receives sound from a PC via an audio cable. |
| **HDMI IN (DVI)** | Connects to a source device using a HDMI cable or HDMI-DVI cable. |
| **ANT IN CABLE / AIR** | Connect to an antenna cable. |
| **RGB IN** | Connects to a source device using a D-SUB cable. |

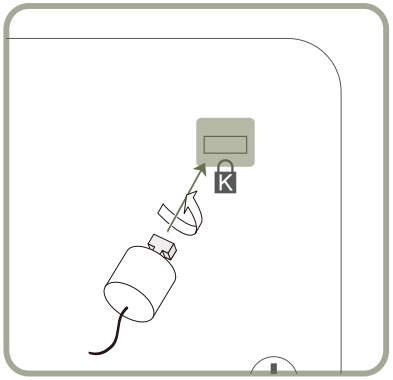
# Anti-theft Lock

— An anti-theft lock allows you to use the product securely even in public places.

— The locking device shape and locking method depend on the manufacturer. Refer to the user guide provided with your anti-theft locking device for details.

— The following images are for reference only. Real-life situations may differ from what is shown in the images.

## To lock an anti-theft locking device:



1 Fix the cable of your anti-theft locking device to a heavy object such as a desk.

2 Put one end of the cable through the loop on the other end.

3 Insert the locking device into the anti-theft lock slot at the back of the product.

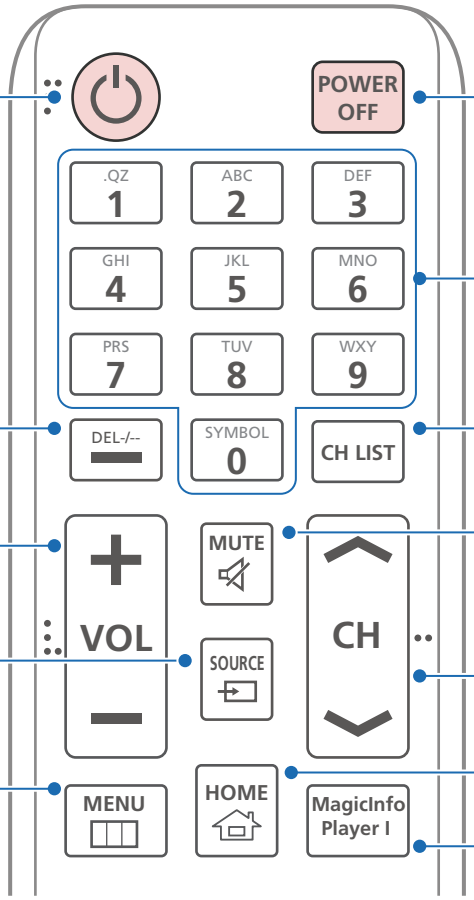
4 Lock the locking device.

- An anti-theft locking device can be purchased separately.
- Refer to the user guide provided with your anti-theft locking device for details.
- Anti-theft locking devices can be purchased at electronics retailers or online.

# Remote Control

— Using other display devices in the same space as the remote control of this product can cause the other display devices to be inadvertently controlled.

— A button without a description in the image below is not supported on the product.




Turns the product On/Off.

Power off the product.

Number buttons
Enter the password in the OSD menu.

Press to select additional channels (digital) being broadcasted by the same station. For example, to select channel "54-3", press "54", then press "-" and "3".

**Channel List** Launch Button.

Adjust the volume.

Mute the sound.
Unmuting the sound: Press MUTE again or press the volume control(+ VOL -) button.

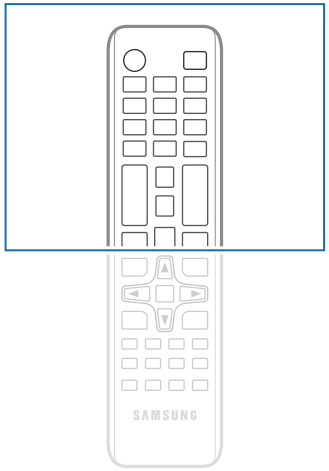
Change the input source.

Change the channel in **TV** mode.

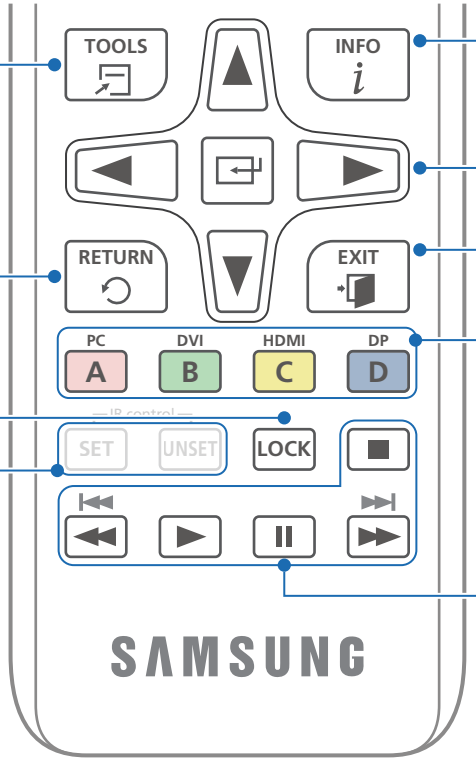
Display or hide the onscreen display menu, or return to the previous menu.

**MagicInfo Player** Launch Button.

**MagicInfo Player** Launch Button.




Remote control button functions may differ for different products.




Quickly select frequently used functions.

Return to the previous menu.

It sets safe lock function.

Not Available.

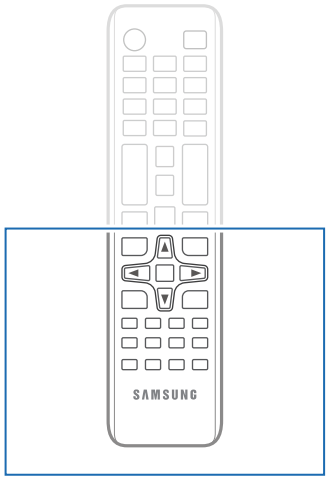
Display information about the current input source.

Move to the upper, lower, left or right menu, or adjust an option's setting.
Confirm a menu selection.

Exit the current menu.

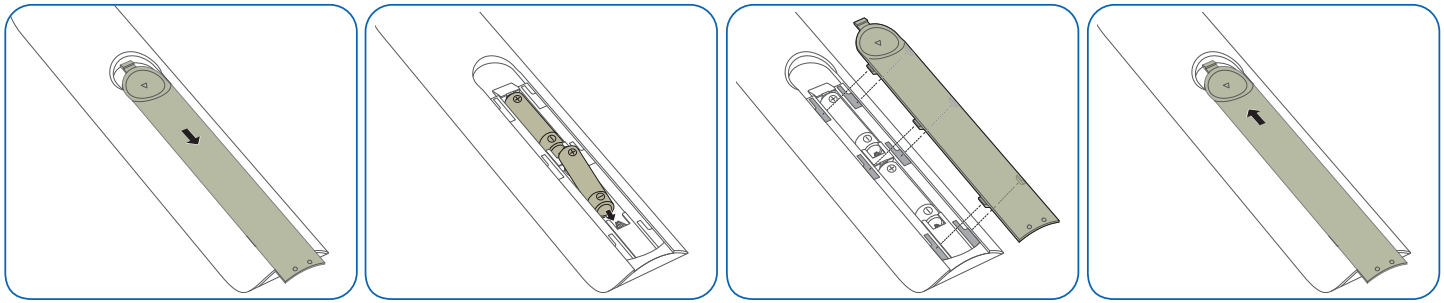
In **TV** mode, configure settings such as the program guide for digital channels. In other modes, manually select a connected source device.

Play photos, videos or music.




Remote control button functions may differ for different products.

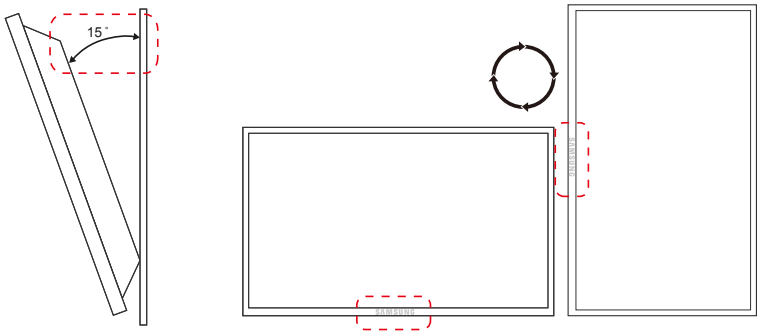
## To place batteries in the remote control



# Before Installing the Product (Installation Guide)

To prevent injury, this apparatus must be securely attached to the floor/wall in accordance with the installation instructions.

- Ensure that an authorized installation company installs the wall mount.
- Otherwise, it may fall and cause personal injury.
- Make sure to install the specified wall mount.




## Tilting Angle and Rotation

— Contact Samsung Customer Service Center for further details.

- The product can be tilted at a maximum angle of 15˚ from a perpendicular wall surface.
- To use the product vertically (portrait), turn it clockwise so that the LED is pointing down.

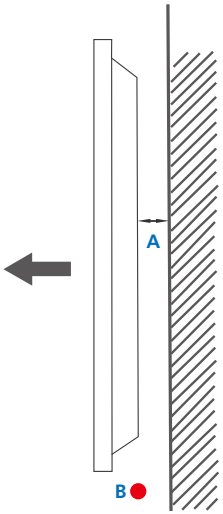



**Figure 1.1 Side view**

## Ventilation

### Installation on a Perpendicular Wall

A Minimum 4 cm

B Ambient temperature: Under 35˚C

- When installing the product on a perpendicular wall, allow at least 4 cm of space between the product and wall surface for ventilation and ensure that the ambient A temperature is kept below 35˚C.

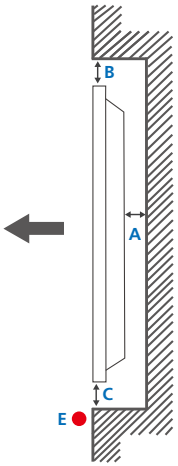
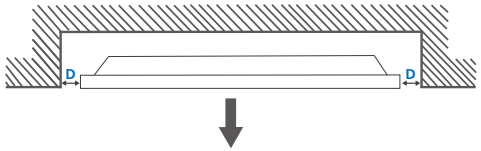



Figure 1.2 Side view

Figure 1.3 Side view




## Installation on an Indented Wall

— Contact Samsung Customer Service Center for further details.

### Plane view

A Minimum 4 cm

B Minimum 7 cm

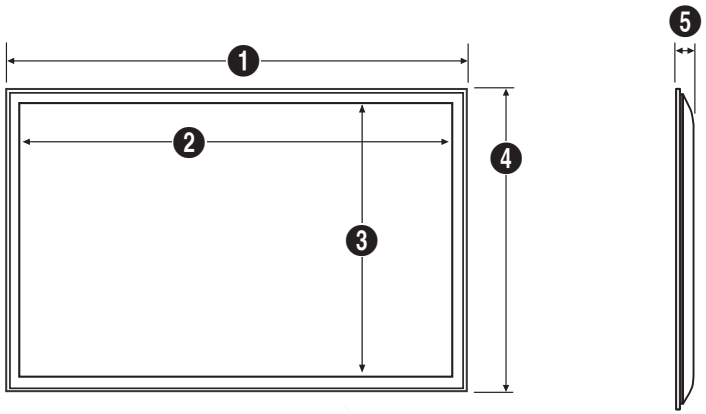
C Minimum 5 cm

D Minimum 5 cm

E Ambient temperature: Under 35˚C

— When installing the product on an indented wall, allow at least the space specified above between the product and wall for ventilation and ensure that the ambient temperature is kept below 35˚C.

# Dimensions




Unit: cm

| Model name | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| EB40D | 91.42 | 88.82 | 50.07 | 54.79 | 9.09 |
| EB48D | 108.32 | 105.62 | 59.51 | 63.78 | 9.09 |

— All drawings are not necessarily to scale. Some dimensions are subject to change without prior notice.
Refer to the dimensions prior to performing installation of your product. Not responsible for typographical or printed errors.

# Installing the Wall Mount

## Installing the Wall Mount Kit

The wall mount kit (sold separately) allows you to mount the product on the wall.

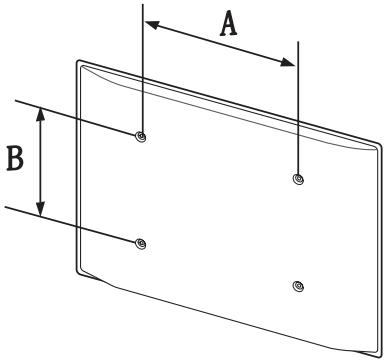
For detailed information on installing the wall mount, see the instructions provided with the wall mount.

We recommend you contact a technician for assistance when installing the wall mount bracket.

Samsung Electronics is not responsible for any damage to the product or injury to yourself or others if you elect to install the wall mount on your own.

## Wall Mount Kit Specifications

— Install your wall mount on a solid wall perpendicular to the floor. Before attaching the wall mount to surfaces other than plaster board, please contact your nearest dealer for additional information.
If you install the product on a slanted wall, it may fall and result in severe personal injury.




- Samsung wall mount kits contain a detailed installation manual and all parts necessary for assembly are provided.
- Do not use screws that are longer than the standard length or do not comply with the VESA standard screw specifications. Screws that are too long may cause damage to the inside of the product.
- For wall mounts that do not comply with the VESA standard screw specifications, the length of the screws may differ depending on the wall mount specifications.
- Do not fasten the screws too firmly. This may damage the product or cause the product to fall, leading to personal injury. Samsung is not liable for these kinds of accidents.
- Samsung is not liable for product damage or personal injury when non-specified wall mount is used or the consumer fails to follow the product installation instructions.
- Do not mount the product at more than a 15 degree tilt.
- Always have two people mount the product on a wall.
- Standard dimensions for wall mount kits are shown in the table below.

Unit: cm

| Model name | Screw hole specs (A * B) in centimeters | Standard Screw | Quantity |
|---|---|---|---|
| EB40D<br>EB48D | 20 × 20 | M8 / L14~16 | 4 |

— Do not install your Wall Mount Kit while your product is turned on. It may result in personal injury due to electric shock.

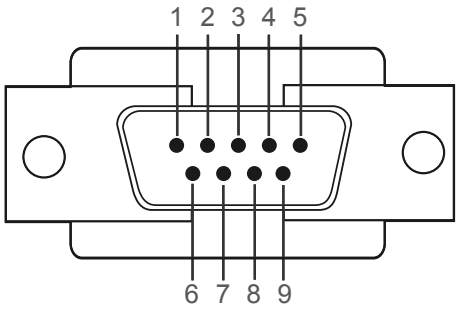
# Remote Control (RS232C)

## Cable Connection

### RS232C Cable

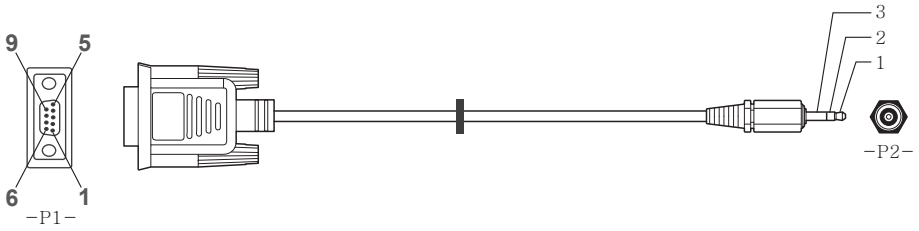
| | |
|---|---|
| **Interface** | RS232C (9 pins) |
| **Pin** | TxD (No.2), RxD (No.3), GND (No.5) |
| **Bit rate** | 9600 bps |
| **Data bits** | 8 bit |
| **Parity** | None |
| **Stop bit** | 1 bit |
| **Flow control** | None |
| **Maximum length** | 15 m (only shielded type) |

- Pin assignment




| Pin | Signal |
|---|---|
| **1** | Detect data carrier |
| **2** | Received data |
| **3** | Transmitted data |
| **4** | Prepare data terminal |
| **5** | Signal ground |
| **6** | Prepare data set |
| **7** | Send request |
| **8** | Clear to send |
| **9** | Ring indicator |

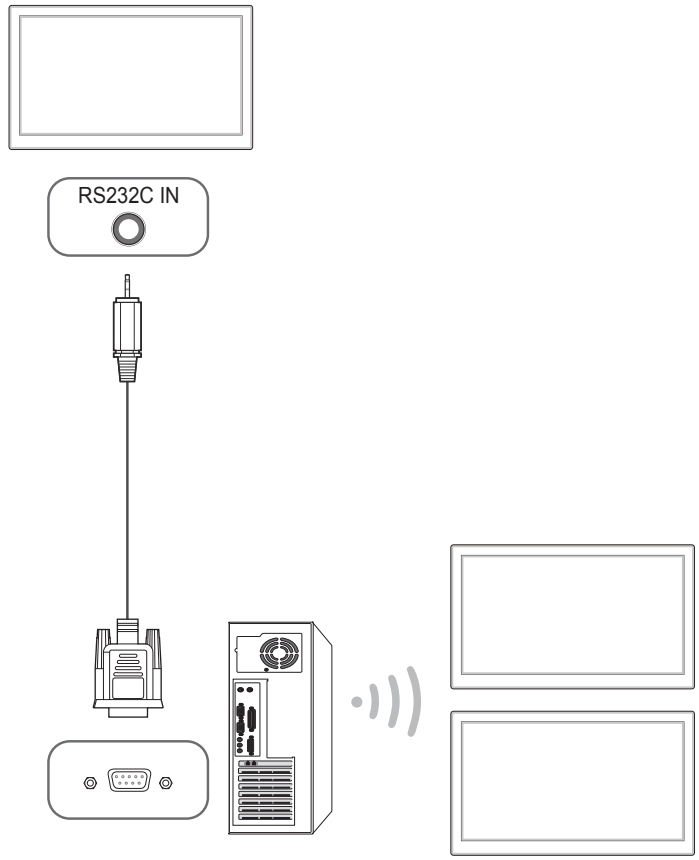
- RS232C cable
  Connector: 9-Pin D-Sub to Stereo Cable




| -P1- | | -P1- | | -P2- | | -P2- |
|---|---|---|---|---|---|---|
| **Female** | **Rx** | **2** | **-------->** | **3** | **Tx** | **STEREO** |
| | **Tx** | **3** | **<--------** | **2** | **Rx** | **PLUG** |
| | **Gnd** | **5** | **----------** | **5** | **Gnd** | **(3.5ø)** |

# Connection

- Connection 1



# Control Codes

## Viewing control state (Get control command)

| Header | Command | ID | Data length | Checksum |
|---|---|---|---|---|
| 0xAA | Command type | | 0 | |

## Controlling (Set control command)

| Header | Command | ID | Data length | Data | Checksum |
|---|---|---|---|---|---|
| 0xAA | Command type | | 1 | Value | |

## Command

| No. | Command type | Command | Value range |
|---|---|---|---|
| 1 | Power control | 0x11 | 0~1 |
| 2 | Volume control | 0x12 | 0~100 |
| 3 | Input source control | 0x14 | - |
| 4 | Screen mode control | 0x18 | - |
| 5 | Screen size control | 0x19 | 0~255 |
| 6 | PIP On/Off control | 0x3C | 0~1 |
| 7 | Auto adjustment control | 0x3D | 0 |
| 8 | Safety Lock | 0x5D | 0~1 |

- All communications take place in hexadecimals. The checksum is calculated by adding up all values except the header. If a checksum adds up to be more than 2 digits as shown below (11+FF+01+01=112), the first digit is removed.

E.g. Power On & ID=0

| Header | Command | ID | Data length | Data 1 | Checksum |
|---|---|---|---|---|---|
| 0xAA | 0x11 | | 1 | "Power" | |

| Header | Command | ID | Data length | Data 1 | 12 |
|---|---|---|---|---|---|
| 0xAA | 0x11 | | 1 | 1 | |

- To control all devices connected by a serial cable simultaneously irrespective of IDs, set the ID as "0xFE" and transmit commands. Commands will be executed by each device but ACK will not respond.

## Power control

- Function
  A product can be powered on and off using a PC.

  — The power on/off functions are not available on a Wi-Fi connection.

- Viewing power state (Get Power ON / OFF Status)

| Header | Command | ID | Data length | Checksum |
|---|---|---|---|---|
| 0xAA | 0x11 | | 0 | |

- Setting power ON/Off (Set Power ON / OFF)

| Header | Command | ID | Data length | Data | Checksum |
|---|---|---|---|---|---|
| 0xAA | 0x11 | | 1 | "Power" | |

"Power": Power code to be set on a product.

1: Power ON

0: Power OFF

- Ack

| Header | Command | ID | Data length | Ack/Nak | r-CMD | Val1 | Checksum |
|---|---|---|---|---|---|---|---|
| 0xAA | 0xFF | | 3 | 'A' | 0x11 | "Power" | |

"Power": Power code to be set on a product.

- Nak

| Header | Command | ID | Data length | Ack/Nak | r-CMD | Val1 | Checksum |
|---|---|---|---|---|---|---|---|
| 0xAA | 0xFF | | 3 | 'N' | 0x11 | "ERR" | |

"ERR" : A code showing what error has occurred.

## Volume control

- Function
  The volume of a product can be adjusted using a PC.

- Viewing volume state (Get Volume Status)

| Header | Command | ID | Data length | Checksum |
|---|---|---|---|---|
| 0xAA | 0x12 | | 0 | |

- Setting the volume (Set Volume)

| Header | Command | ID | Data length | Data | Checksum |
|---|---|---|---|---|---|
| 0xAA | 0x12 | | 1 | "Volume" | |

"Volume": Volume value code to be set on a product. (0-100)

- Ack

| Header | Command | ID | Data length | Ack/Nak | r-CMD | Val1 | Checksum |
|---|---|---|---|---|---|---|---|
| 0xAA | 0xFF | | 3 | 'A' | 0x12 | "Volume" | |

"Volume": Volume value code to be set on a product. (0-100)

- Nak

| Header | Command | ID | Data length | Ack/Nak | r-CMD | Val1 | Checksum |
|---|---|---|---|---|---|---|---|
| 0xAA | 0xFF | | 3 | 'N' | 0x12 | "ERR" | |

"ERR" : A code showing what error has occurred.

## Input source control

- Function
  The input source of a product can be changed using a PC.
- Viewing input source state (Get Input Source Status)

| Header | Command | ID | Data length | Checksum |
|---|---|---|---|---|
| 0xAA | 0x14 | | 0 | |

- Setting the input source (Set Input Source)

| Header | Command | ID | Data length | Data | Checksum |
|---|---|---|---|---|---|
| 0xAA | 0x14 | | 1 | "Input Source" | |

"Input Source": An input source code to be set on a product.

| | |
|---|---|
| 0x14 | PC |
| 0x0C | Input source |
| 0x40 | DTV |
| 0x21 | HDMI1 |
| 0x22 | HDMI1_PC |
| 0x23 | HDMI2 |
| 0x24 | HDMI2_PC |
| 0x60 | MagicInfo |

— This model does not support HDMI1_PC, HDMI2 and HDMI2_PC ports.

— **MagicInfo** is only available with models that contain the **MagicInfo** function.

- Ack

| Header | Command | ID | Data length | Ack/Nak | r-CMD | Val1 | Checksum |
|---|---|---|---|---|---|---|---|
| 0xAA | 0xFF | | 3 | 'A' | 0x14 | "Input Source" | |

"Input Source": An input source code to be set on a product.

- Nak

| Header | Command | ID | Data length | Ack/Nak | r-CMD | Val1 | Checksum |
|---|---|---|---|---|---|---|---|
| 0xAA | 0xFF | | 3 | 'N' | 0x14 | "ERR" | |

"ERR" : A code showing what error has occurred.

## Screen mode control

- Function
  The screen mode of a product can be changed using a PC.
  — This control can only be used on models that include a TV.
  — Displayed menus may vary depending on the region.
- Viewing screen status (Get Screen Mode Status)

| Header | Command | ID | Data length | Checksum |
|---|---|---|---|---|
| 0xAA | 0x18 | | 0 | |

- Setting the picture size (Set Picture Size)

| Header | Command | ID | Data length | Data | Checksum |
|---|---|---|---|---|---|
| 0xAA | 0x18 | | 1 | "Screen Mode" | |

"Screen Mode": A code that sets the product status

| | |
|---|---|
| 0x01 | 16 : 9 |
| 0x04 | Zoom |
| 0x31 | Wide Zoom |
| 0x0B | 4 : 3 |

- Ack

| Header | Command | ID | Data length | Ack/Nak | r-CMD | Val1 | Checksum |
|---|---|---|---|---|---|---|---|
| 0xAA | 0xFF | | 3 | 'A' | 0x18 | "Screen Mode" | |

"Screen Mode": A code that sets the product status

- Nak

| Header | Command | ID | Data length | Ack/Nak | r-CMD | Val1 | Checksum |
|---|---|---|---|---|---|---|---|
| 0xAA | 0xFF | | 3 | 'N' | 0x18 | "ERR" | |

"ERR": A code showing what error has occurred

## Screen size control

- Function
  The screen size of a product can be changed using a PC.
- Viewing the screen size (Get Screen Size Status)

| Header | Command | ID | Data length | Checksum |
|---|---|---|---|---|
| 0xAA | 0x19 | | 0 | |

- Ack

| Header | Command | ID | Data length | Ack/Nak | r-CMD | Val1 | Checksum |
|---|---|---|---|---|---|---|---|
| 0xAA | 0xFF | | 3 | 'A' | 0x19 | "Screen Size" | |

"Screen Size": product screen size (range: 0 – 255, unit: inch)

- Nak

| Header | Command | ID | Data length | Ack/Nak | r-CMD | Val1 | Checksum |
|---|---|---|---|---|---|---|---|
| 0xAA | 0xFF | | 3 | 'N' | 0x19 | "ERR" | |

"ERR": A code showing what error has occurred

## PIP On/Off control

- Function
  The PIP mode of a product can be turned on or off using a PC.
  — Only available on models that have the PIP function.
  — This function is not available in **MagicInfo**.
- Viewing PIP on/off state (Get the PIP ON / OFF Status)

| Header | Command | ID | Data length | Checksum |
|---|---|---|---|---|
| 0xAA | 0x3C | | 0 | |

- Setting PIP on/off (Set the PIP ON / OFF)

| Header | Command | ID | Data length | Data | Checksum |
|---|---|---|---|---|---|
| 0xAA | 0x3C | | 1 | "PIP" | |

"PIP": A code used to turn the PIP mode of a product on or off

1: PIP ON

0: PIP OFF

- Ack

| Header | Command | ID | Data length | Ack/Nak | r-CMD | Val1 | Checksum |
|---|---|---|---|---|---|---|---|
| 0xAA | 0xFF | | 3 | 'A' | 0x3C | "PIP" | |

"PIP": A code used to turn the PIP mode of a product on or off

- Nak

| Header | Command | ID | Data length | Ack/Nak | r-CMD | Val1 | Checksum |
|---|---|---|---|---|---|---|---|
| 0xAA | 0xFF | | 3 | 'A' | 0x3C | "PIP" | |

"ERR": A code showing what error has occurred

## Auto adjustment control (PC and BNC only)

- Function
  Automatically adjust the PC system screen using a PC.
- Viewing auto adjustment state (Get Auto Adjustment Status)
  None
- Setting auto adjustment (Set Auto Adjustment)

| Header | Command | ID | Data length | Data | Checksum |
|---|---|---|---|---|---|
| 0xAA | 0x3D | | 1 | "Auto Adjustment" | |

"Auto Adjustment" : 0x00 (at all times)

- Ack

| Header | Command | ID | Data length | Ack/Nak | r-CMD | Val1 | Checksum |
|---|---|---|---|---|---|---|---|
| 0xAA | 0xFF | | 3 | 'A' | 0x3D | "Auto Adjustment" | |

- Nak

| Header | Command | ID | Data length | Ack/Nak | r-CMD | Val1 | Checksum |
|---|---|---|---|---|---|---|---|
| 0xAA | 0xFF | | 3 | 'A' | 0x3D | "ERR" | |

"ERR": A code showing what error has occurred

## Safety Lock

- Function
  PC can be used to turn the **Safety Lock** function on or off on a product.
  This control is available regardless of whether or not the power is turned on.
- Viewing the safety lock state (Get Safety Lock Status)

| Header | Command | ID | Data length | Checksum |
|---|---|---|---|---|
| 0xAA | 0x5D | | 0 | |

- Enabling or disabling safety lock (Set Safety Lock Enable / Disable)

| Header | Command | ID | Data length | Data | Checksum |
|---|---|---|---|---|---|
| 0xAA | 0x5D | | 1 | "Safety Lock" | |

"Safety Lock": Safety lock code to be set on a product

1: ON

0: OFF

- Ack

| Header | Command | ID | Data length | Ack/Nak | r-CMD | Val1 | Checksum |
|---|---|---|---|---|---|---|---|
| 0xAA | 0xFF | | 3 | 'A' | 0x5D | "Safety Lock" | |

"Safety Lock": Safety lock code to be set on a product

- Nak

| Header | Command | ID | Data length | Ack/Nak | r-CMD | Val1 | Checksum |
|---|---|---|---|---|---|---|---|
| 0xAA | 0xFF | | 3 | 'N' | 0x5D | "ERR" | |

"ERR": A code showing what error has occurred

# Chapter 03
# Connecting and Using a Source Device

## Before Connecting

### Pre-connection Checkpoints

— Before connecting a source device, read the user manual provided with it.
The number and locations of ports on source devices may differ from device to device.

— Do not connect the power cable until all connections are completed.
Connecting the power cable during connection may damage the product.

— Connect the sound ports correctly: left = white and right = red.

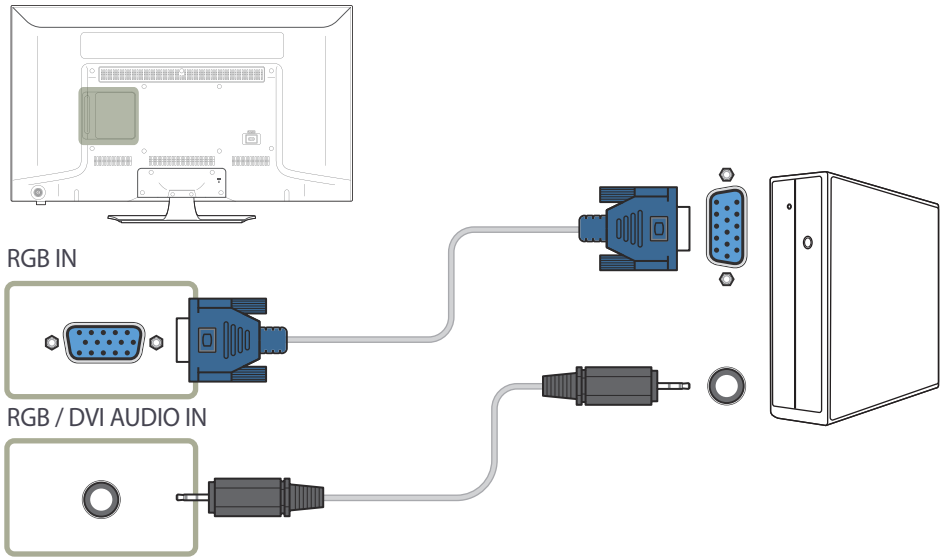
— Check the types of ports at the back of the product you want to connect.

## Connecting to a PC

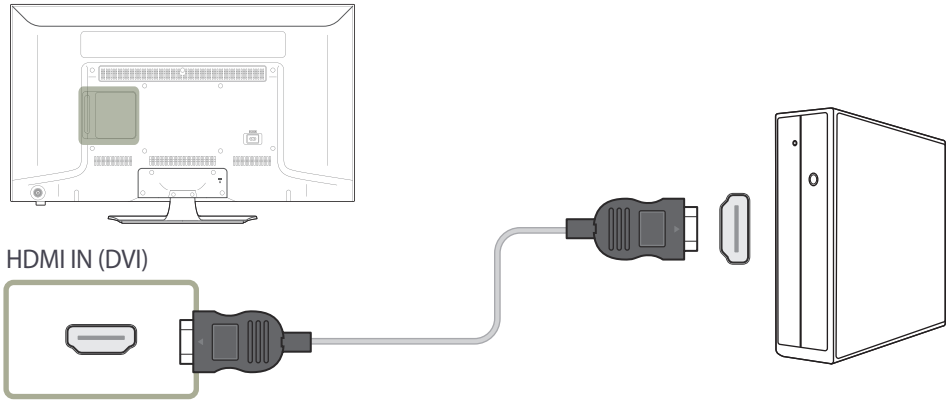
- Do not connect the power cable before connecting all other cables.
  Ensure you connect a source device first before connecting the power cable.
- A PC can be connected to the product in a variety of ways.
  Select a connection method suitable for your PC.

— Connecting parts may differ in different products.

### Connection using the D-SUB cable (Analog type)

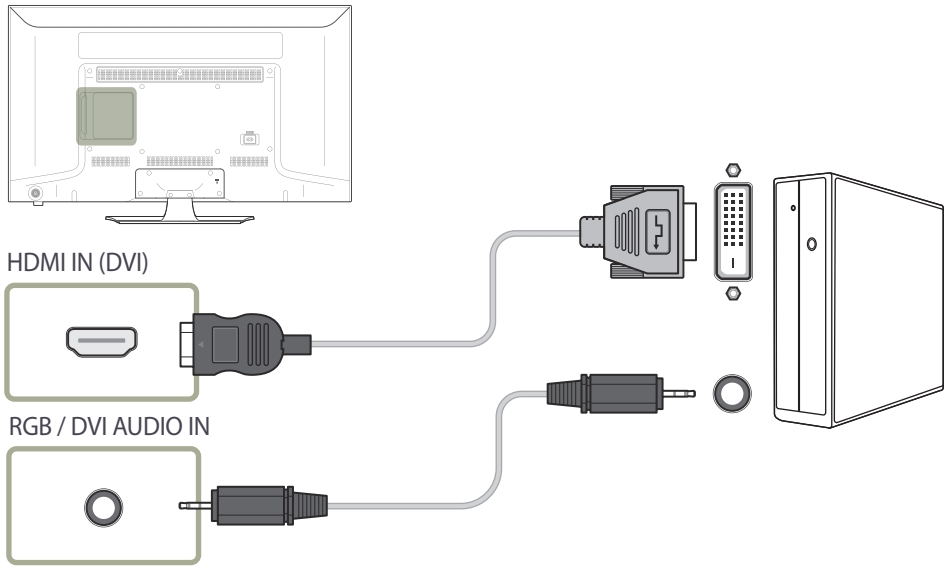


## Connection Using an HDMI Cable




## Connection Using an HDMI-DVI Cable

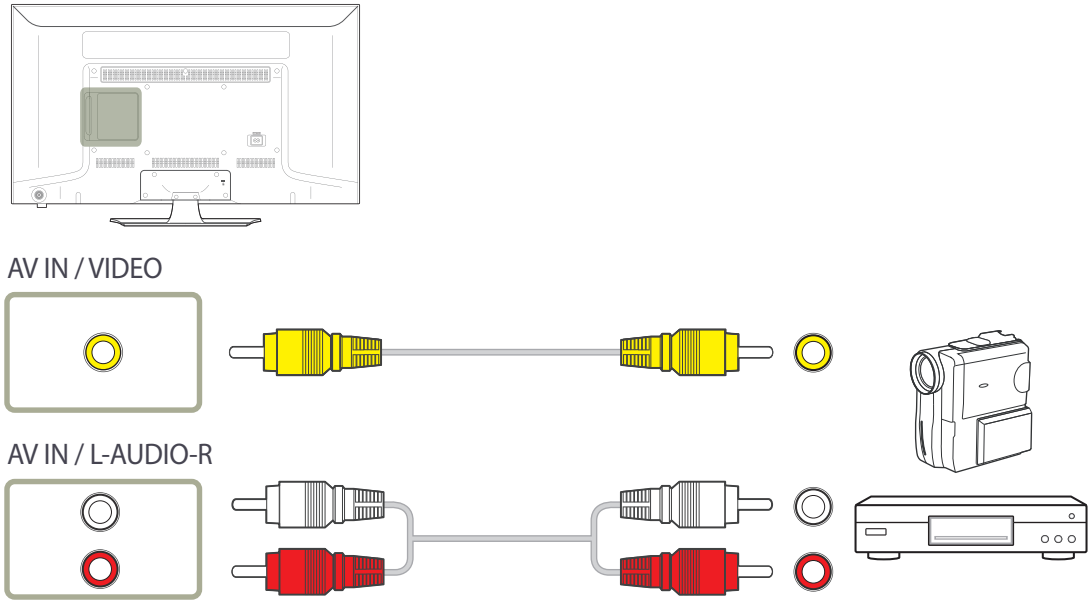
When you connect a PC to the product using an HDMI-DVI cable, set **Edit Name** to **DVI PC** to access video and audio content stored on the PC.



# Connecting to a Video Device

- Do not connect the power cable before connecting all other cables.
  Ensure you connect a source device first before connecting the power cable.
- You can connect a video device to the product using a cable.
  - Connecting parts may differ in different products.
  - Press the **SOURCE** button on the remote control to change the source.

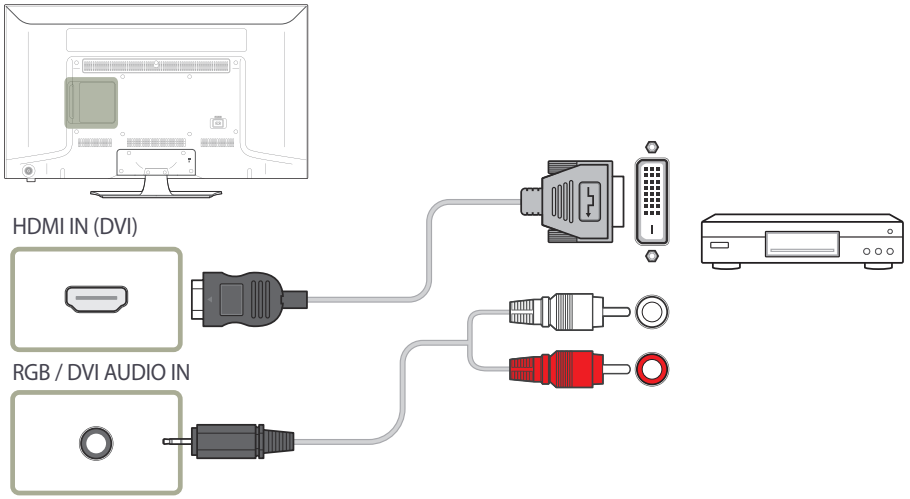
## Connection Using the AV Cable



## Connection Using an HDMI-DVI Cable

— Audio will not be enabled if the product is connected to a video device using an HDMI-DVI cable. To resolve this, additionally connect an audio cable to the audio ports on the product and video device. When you connect a video device to the product using an HDMI-DVI cable, set **Edit Name** to **DVI Devices** to access video and audio content stored on the video device.

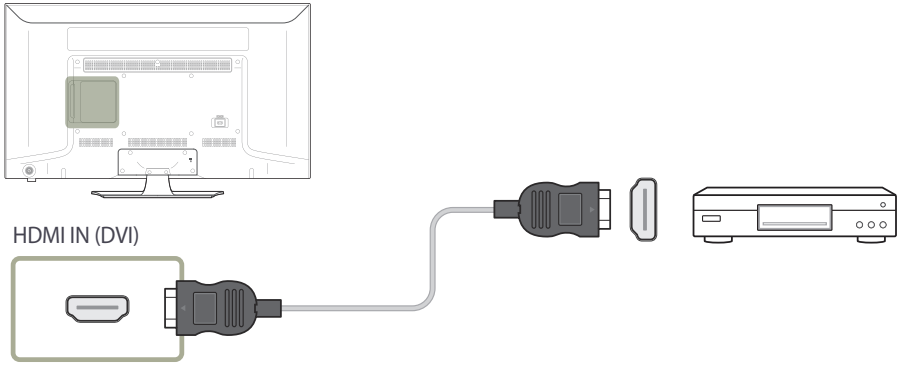
— Supported resolutions include 1080p (50/60Hz), 720p (50/60Hz), 480p, and 576p.




## Connection Using an HDMI Cable

### Using an HDMI cable (up to 1080p)

- For better picture and audio quality, connect to a digital device using an HDMI cable.
- An HDMI cable supports digital video and audio signals, and does not require an audio cable.
- The picture may not display normally (if at all) or the audio may not work if an external device that uses an older version of HDMI mode is connected to the product. If such a problem occurs, ask the manufacturer of the external device about the HDMI version and, if out of date, request an upgrade.
- Be sure to use an HDMI cable with a thickness of 1.4 cm or less.
- Be sure to purchase a certified HDMI cable. Otherwise, the picture may not display or a connection error may occur.
- A basic high-speed HDMI cable or one with ethernet is recommended.
  This product does not support the ethernet function via HDMI.

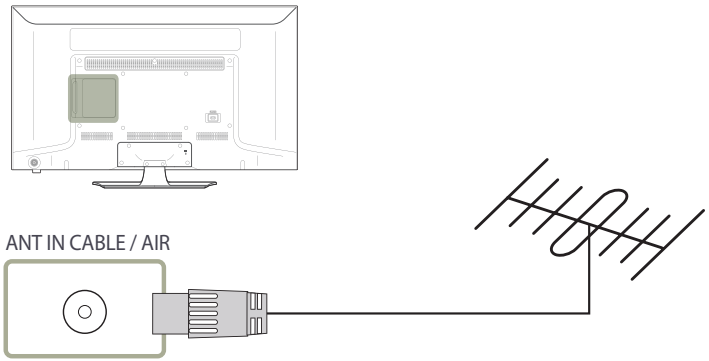


# Connecting the Antenna

— Connecting parts may differ in different products.

— When the product is powered on for the first time, basic settings are configured automatically.

— Take extra care to ensure the wires inside the antenna cable are not bent.



# Initial Setup

After powering on the product for the first time, configure basic settings such as the language, channel and time.

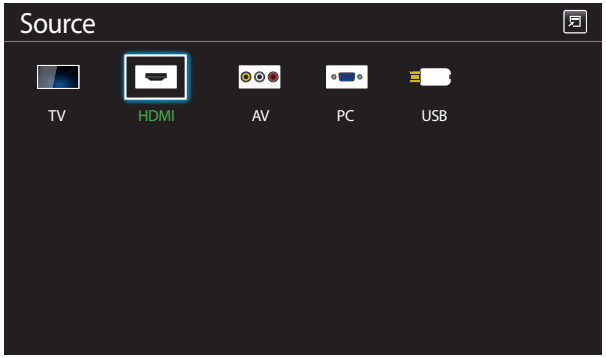
**Language** → **Regional Settings** → **Channel Source** → **Auto Tuning** (**Auto Tuning** does not appear if **Set-top box** or **No TV (Signage Only)** is selected.) → **Network Settings** → **Clock** → **Setup Complete!**

— Refer to page 102 for details about the **Setup**.

# Changing the Input source

## Source List

**MENU** → **Applications** → **Source List** → **ENTER**




– The displayed image may differ depending on the model.

**Source** allows you to select a variety of sources and change source device names.

You can display the screen of a source device connected to the product. Select a source from source list to display the screen of the selected source.

— The input source can also be changed by using the **SOURCE** button on the remote control.

— The screen may not display correctly if an incorrect source is selected for the source device you want to convert to.

— To view detailed information about connected source devices, press the **TOOLS** button from the **Source** page.

— If the product is in portrait orientation, it is not possible to change **Source List**.

— Refer to page 86 for details about the **Source List**.

# Chapter 04
# Using MDC

The Multiple Display Control (MDC) software allows you to control display devices easily from a computer.
For details on how to use the MDC program, refer to Help after installing the program. The MDC program can be downloaded from the website.

## MDC Program Installation/Uninstallation

### Installation

– MDC installation can be affected by the graphics card, mother board and network conditions.

1 Click the **MDC Unified** installation program.

2 Select a language for installation. Next, click "**OK**".

3 When the "**Welcome to the InstallShield Wizard for MDC_Unified**" screen appears, click "**Next**".

4 In the "**License Agreement**" window displayed, select "**I accept the terms in the license agreement**" and click "**Next**".

5 In the displayed "**Customer Information**" window, fill out all the information fields and click "**Next**".

6 In the displayed "**Destination Folder**" window, select the directory path you want to install the program in and click "**Next**".

— If the directory path is not specified, the program will be installed in the default directory path.

7 In the displayed "**Ready to Install the Program**" window, check the directory path to install the program in and click "**Install**".

8 Installation progress will be displayed.

9 Click "**Finish**" in the displayed "**InstallShield Wizard Complete**" window.

— Select "**Launch MDC Unified**" and click "**Finish**" to run the MDC program immediately.

10 The **MDC Unified** shortcut icon will be created on the desktop after installation.

— The MDC execution icon may not be displayed depending on the PC system or product specifications.

— Press F5 if the execution icon is not displayed.

### Uninstallation

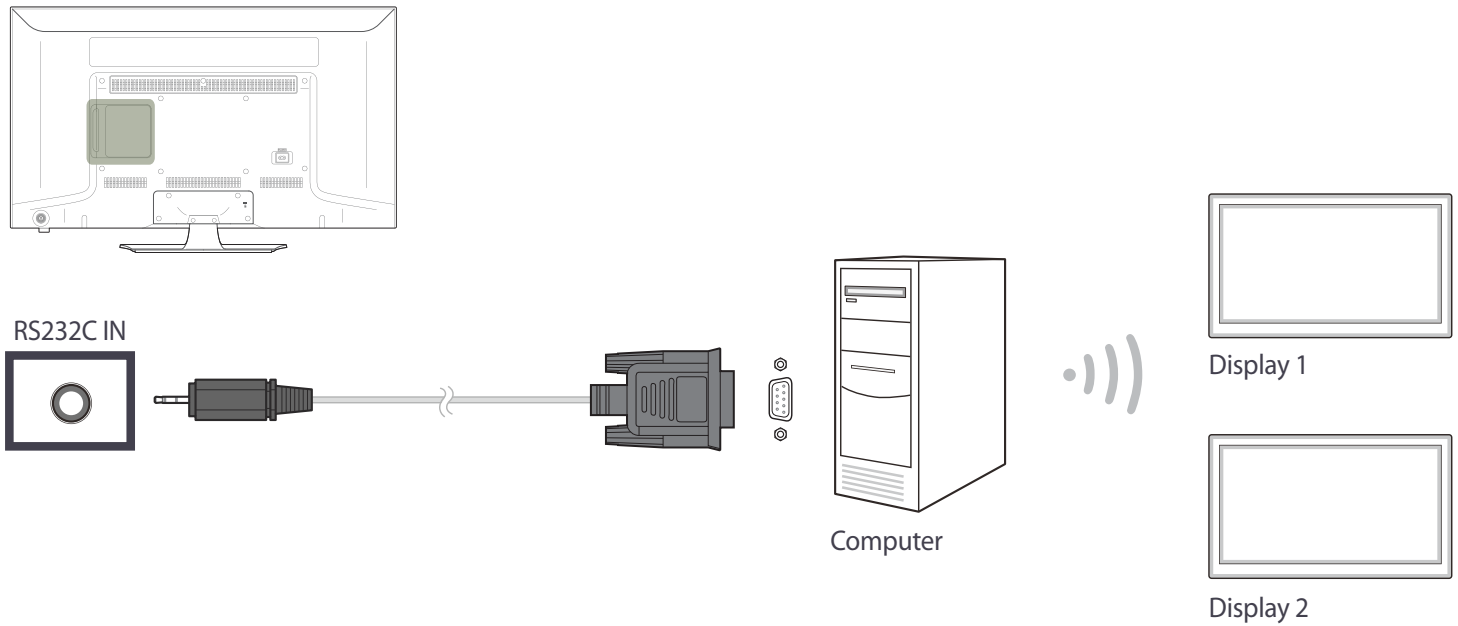
1 Select **Settings** > **Control Panel** on the **Start** menu and double-click **Add/Delete Program**.

2 Select **MDC Unified** from the list and click **Change/Remove**.

# Connecting to MDC

## Using MDC over RS232C connections and Wi-Fi

Connect monitors using Wi-Fi and the RS232C IN ports on the monitors.



# Chapter 05
# Screen Adjustment

Configure the **Picture** settings (**Backlight**, **Color Tone**, etc.).

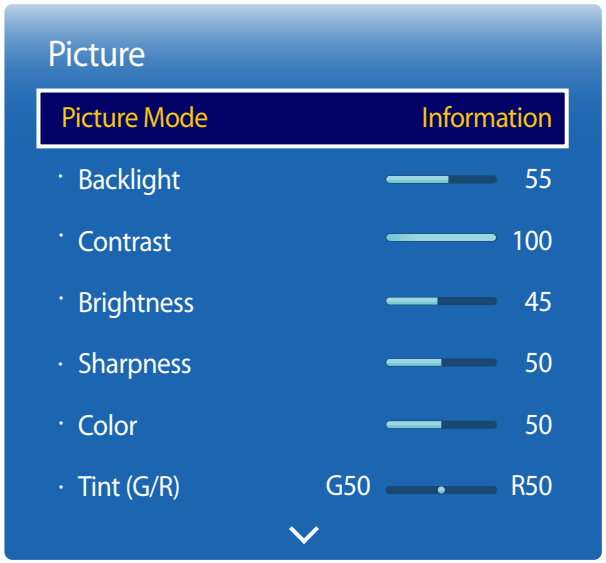
– The layout of the **Picture** menu options may vary depending on the product.

## Picture Mode

**MENU** → **Picture** → **Picture Mode** → **ENTER**

Select a picture mode (**Picture Mode**) suitable for the environment where the product will be used.

Different **Picture Mode** options are displayed depending on the current input source.




– The displayed image may differ depending on the model.

### If the input source is PC or HDMI (when a PC is connected)

- **Information**: This mode reduces eye fatigue and is suitable for displaying information to the public.
- **Advertisement**: This mode is suitable for displaying video content and indoor/outdoor advertisements.

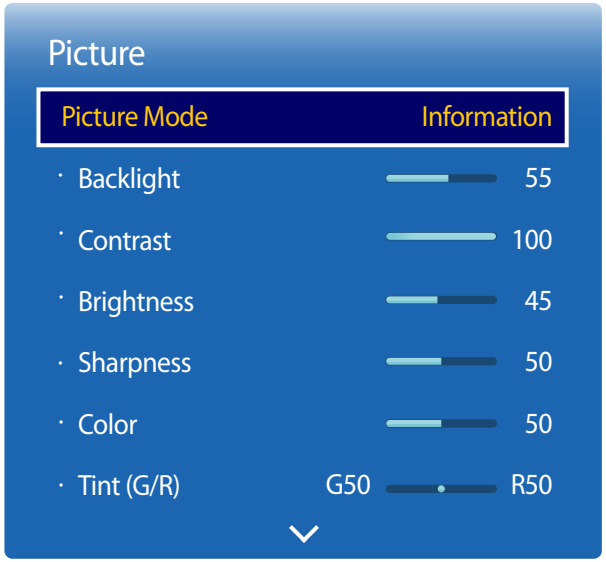
— These options can be selected only when **Edit Name** is set to **PC**.
(**SOURCE** → **Source** → **TOOLS** → **Edit Name** → **ENTER**)

### If the input source is TV, HDMI or AV

- **Dynamic**: This mode is suitable when the ambient light is bright.
- **Standard**: This mode is generally suitable for any environment.
- **Movie**: This mode reduces eye fatigue.

# Backlight / Contrast / Brightness / Sharpness / Color / Tint (G/R)

MENU → Picture → ENTER




– The displayed image may differ depending on the model.

Your product has several options for adjusting picture quality.

| Input source | Picture Mode | Adjustable options |
|---|---|---|
| PC, HDMI (when a PC is connected) | Information, Advertisement | Backlight / Contrast / Brightness / Sharpness |
| AV, HDMI, TV | Dynamic, Standard, Movie | Backlight / Contrast / Brightness / Sharpness / Color / Tint (G/R) |

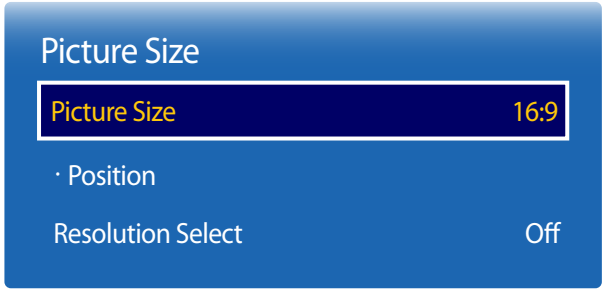
— When you make changes to **Backlight**, **Contrast**, **Brightness**, **Sharpness**, **Color** or **Tint (G/R)**, the OSD will be adjusted accordingly.

— You can adjust and store settings for each external device you have connected to an input on the product.

— Lowering picture brightness reduces power consumption.

# Picture Size

MENU → Picture → Picture Size → ENTER




– The displayed image may differ depending on the model.

choose size and aspect ratio picture displayed on screen.

## Picture Size

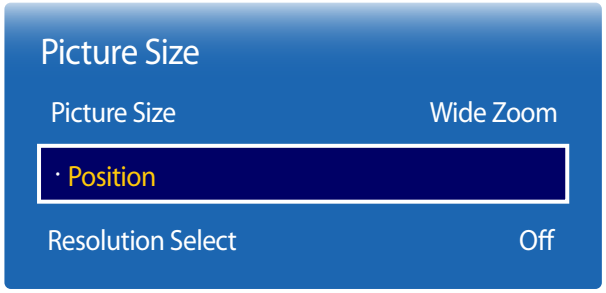
— Different **Screen Adjustment** options are displayed depending on the current input source.

- **16:9**: Sets the picture to **16:9** wide mode.
- **Wide Zoom**: Magnifies the picture size more than 4:3. A magnified picture can be moved up and down.
- **Zoom**: Magnifies the 16:9 wide pictures vertically to fit the screen size. A magnified picture can be moved up and down.
- **Smart View 1**: Reduces the **16:9** picture by 50%.
  — **Smart View 1** is enabled only in **HDMI** mode.
- **Smart View 2**: Reduces the **16:9** picture by 25%.
  — **Smart View 2** can be selected in **HDMI** mode or when you are watching DTV.
- **Wide Fit**: Enlarges the aspect ratio of the picture to fit the entire screen.
- **4:3**: Sets the picture to basic **4:3** mode.
  — Do not set your product to **4:3** format for a long time.
  The borders displayed on the left and right, or top and bottom of the screen may cause image retention (screen burn) which is not covered by the warranty.
- **Screen Fit**: Displays the full image without any cut-off when **HDMI** (720p / 1080i / 1080p) signals are inputted.
- **Original Ratio**: If the input source is **PC** or **HDMI** (PC connection) the video will display in the original aspect ratio.
- **Custom**: Changes the resolution to suit the user's preferences.
  — Not available on analog TVs.

## Picture Sizes available by Input Source.

| Input Source | Picture Size |
|---|---|
| **ATV** | **16:9**, **Wide Zoom**, **Zoom**, **4:3** |
| **DTV** (1080i) | **16:9**, **Smart View 2**, **Wide Fit**, **4:3**, **Screen Fit** |
| **AV** (480i, 480p) | **16:9**, **Wide Zoom**, **Zoom**, **4:3**, **Custom** |
| **HDMI** (720p, 1080i, 1080p) | **16:9**, **Smart View 1**, **Smart View 2**, **Wide Fit**, **4:3**, **Screen Fit**, **Custom** |
| **HDMI** (480i, 480p) | **16:9**, **Wide Zoom**, **Zoom**, **Smart View 1**, **Smart View 2**, **4:3**, **Custom** |
| **PC**, **HDMI** (when a PC is connected) | **16:9**, **4:3**, **Original Ratio** |

## Position




– The displayed image may differ depending on the model.

Adjusts the picture position. **Position** is only available if **Picture Size** is set to **Wide Zoom**, **Zoom**, **Wide Fit** or **Screen Fit**.

— To use the **Position** function after selecting **Wide Zoom**, **Zoom**, **Wide Fit** or **Screen Fit**, follow these steps.

1 Press the ▼ button to select **Position**. Press the ↵ button.

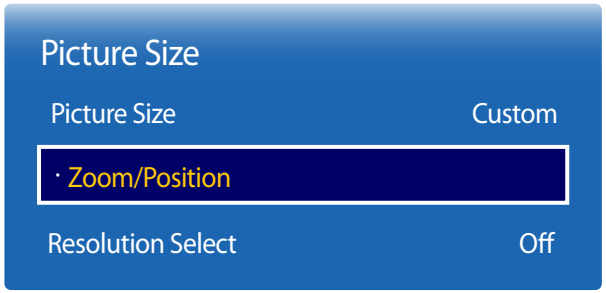
2 Press the ▲ or ▼ button to move the picture up or down.

3 Press the ↵ button.

— If you want to reset the picture to its original position, select **Reset** in the **Position** screen.

— The picture will be set to its default position.

## Zoom/Position




– The displayed image may differ depending on the model.

Adjusts the picture zoom and position. This option is available when the input source is set to **HDMI** (1080i/1080p) or **AV** (1080i/1080p). **Picture Size** must be set to **Custom** for the option to be available.

1 Press the ▼ button to select **Zoom/Position**. Press the ↵ button.

2 Select the **Zoom** or **Position**. Press the ↵ button.

3 Press the ▲ / ▼ / ◀ / ▶ button to move the picture.

4 Press the ↵ button.

— If you want to reset the picture to its original position, select **Reset** in the **Zoom/Position** screen.

— The picture will be set to its default position.

## Resolution

If the picture is not normal even when the resolution of the graphics card is one of the following, you can optimize the picture quality by selecting the same resolution for the product as the PC using this menu.

Available resolutions: **Off** / **1024x768** / **1280x768** / **1360x768** / **1366x768**

# Auto Adjustment

MENU → Picture → Auto Adjustment → ENTER

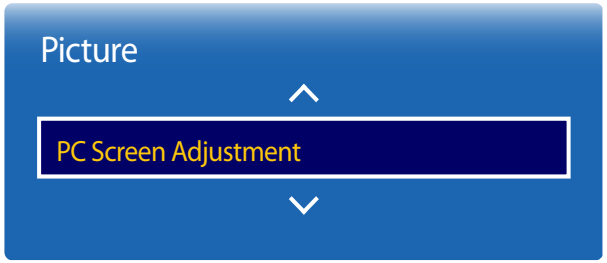
– Available in **PC** mode only.

– The displayed image may differ depending on the model.

Adjust frequency values/positions and fine tune the settings automatically.

# PC Screen Adjustment

MENU → Picture → PC Screen Adjustment → ENTER




– Available in **PC** mode only.

– The displayed image may differ depending on the model.

- **Coarse** / **Fine**
  Removes or reduces picture noise.
  If the noise is not removed by Fine-tuning alone, use the **Coarse** function to adjust the frequency as best as possible (**Coarse**) and Fine-tune again. After the noise has been reduced, re-adjust the picture so that it is aligned with the Center of screen.
- **Position**
  To adjust the PC's screen position if it is not Centered or does not fit the product screen.
  Press the ▲ or ▼ button to adjust the Vertical Position. Press the ◄ or ► button to adjust the Horizontal Position.
- **Image Reset**
  Resets the image to the default settings.

# PIP

MENU → Picture → PIP → ENTER

- The displayed image may differ depending on the model.
- For **PIP** sound, refer to the **Sound Select** instructions.
- If you turn the product off while watching in the **PIP** mode, **PIP** mode will remain after power Off/On.

## PIP Settings

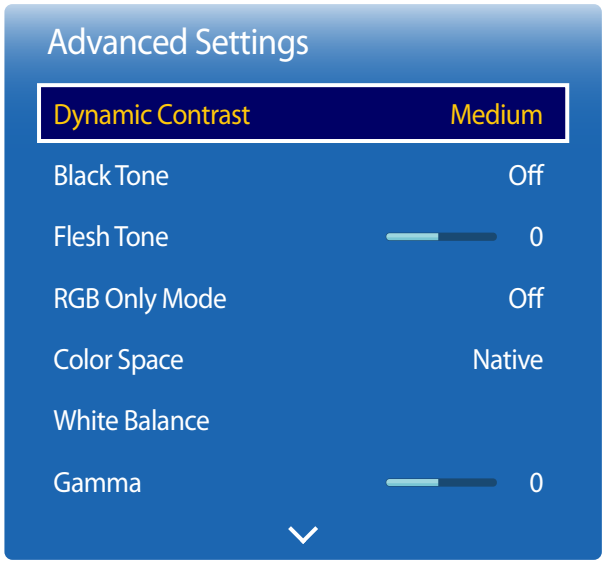
The picture from the external video source will be in the main screen and the picture from the product will be in the PIP sub-picture screen.

| Main picture | Sub picture |
|---|---|
| AV, TV | PC, HDMI |
| HDMI | PC, AV, TV |
| PC | TV, AV, HDMI |

- **PIP** (**Off** / **On**): Activate or deactivate the PIP function.
- **Source**: You can select a source of the sub picture.
- **Antenna** (**Air** / **Cable**): Select either **Air** or **Cable** as the input source for the sub-screen.
  - This option is enabled if the secondary display is set to **TV**.
- **Channel**: Select the channel for the sub-screen.
  - This option is enabled if the secondary display is set to **TV**.
- **Size** ( , , , , , ): Select a size for the subpicture.
- **Position** ( , , , ): Select a position for the sub-picture.
  - In Double ( , , ) mode, you cannot select **Position**.
- **Sound Select** (**Main** / **Sub**): You can choose to listen to the sound from the **Main** picture or the **Sub** picture.

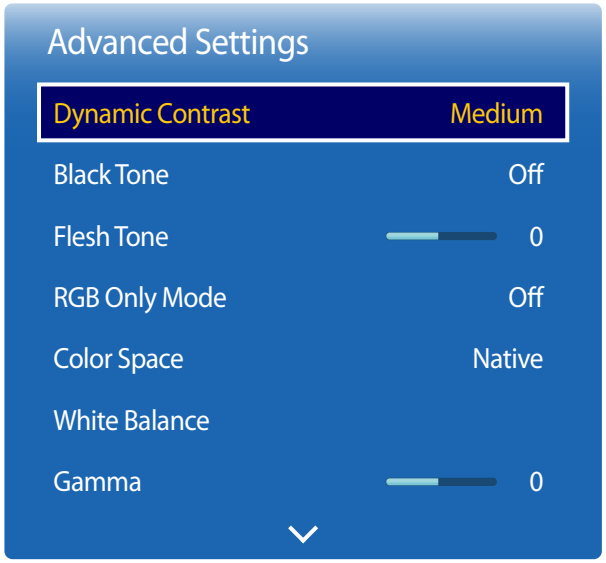
# Advanced Settings

MENU → Picture → Advanced Settings → ENTER




– The displayed image may differ depending on the model.

| Input Source | Picture Mode | Advanced Settings |
|---|---|---|
| PC, HDMI (when a PC is connected) | Information, Advertisement | White Balance / Gamma |
| TV, HDMI, AV | Dynamic | Not available. |
| | Standard | Dynamic Contrast / Black Tone / Flesh Tone / RGB Only Mode / Color Space / White Balance / Gamma / Motion Lighting |
| | Movie | Dynamic Contrast / Black Tone / Flesh Tone / RGB Only Mode / Color Space / White Balance / Gamma |




– The displayed image may differ depending on the model.

## Dynamic Contrast

Adjust the screen contrast.

- **Off** / **Low** / **Medium** / **High**

## Black Tone

Select the black level to adjust the screen depth.

- **Off** / **Dark** / **Darker** / **Darkest**

## Flesh Tone

Emphasize pink **Flesh Tone**.

## RGB Only Mode

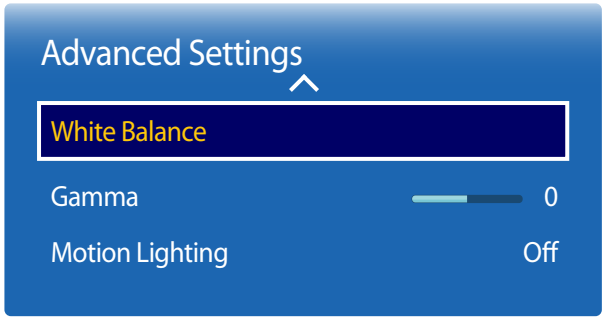
Displays the **Red**, **Green** and **Blue** color for making fine adjustments to the hue and saturation.

- **Off** / **Red** / **Green** / **Blue**

## Color Space

Adjusts the range and variety of colors (the color space) available to create images.

- **Auto** / **Native**




– The displayed image may differ depending on the model.

## White Balance

Adjust the color temperature for a more natural picture.

- **R-Offset** / **G-Offset** / **B-Offset**: Adjust each color's (red, green, blue) darkness.
- **R-Gain** / **G-Gain** / **B-Gain**: Adjust each color's (red, green, blue) brightness.
- **Reset**: Resets the **White Balance** to its default settings.

## Gamma

Adjust the primary color intensity.

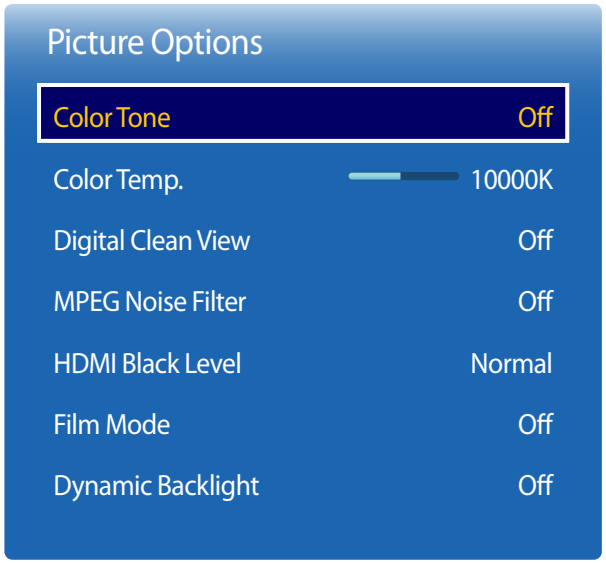
## Motion Lighting

Reduces power consumption by reducing screen brightness when the picture on the screen is in motion.

- **Off** / **On**

# Picture Options

MENU → Picture → Picture Options → ENTER

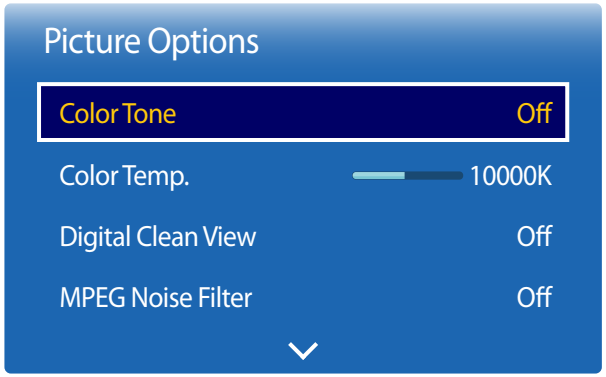



– The displayed image may differ depending on the model.

Select an option using the and arrow keys, ▲ and ▼ the press .

Use the arrow keys to change the setting, and then press .

| Input source | Picture Mode | Picture Options |
|---|---|---|
| PC, HDMI (when a PC is connected) | Information, Advertisement | Color Tone / Color Temp. / HDMI Black Level / Dynamic Backlight |
| HDMI | Dynamic, Standard, Movie | Color Tone / Color Temp. / Digital Clean View / MPEG Noise Filter / Dynamic Backlight |
| TV, AV | Dynamic, Standard, Movie | Color Tone / Color Temp. / Digital Clean View / MPEG Noise Filter / Film Mode / Dynamic Backlight |




– The displayed image may differ depending on the model.

## Color Tone

If the input source is **PC**, **HDMI** (PC connection).

- **Off** / **Cool** / **Standard** / **Warm**

If the input source is **AV**, **HDMI** or **TV**.

- **Off** / **Cool** / **Standard** / **Warm1** / **Warm2**
  - **Warm1** or **Warm2** will be deactivated when the **Picture Mode** is **Dynamic**.
  - Settings can be adjusted and stored for each external device connected to an input on the product.

## Color Temp.

Adjust the color temperature (**Red** / **Green** / **Blue**). (Range: 3000K–15000K)

- This option is available when **Color Tone** is set to **Off**.

## Digital Clean View

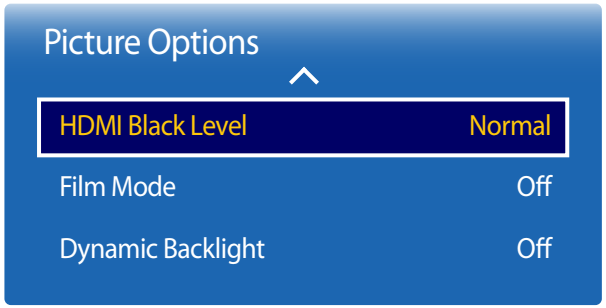
If the broadcast signal received by your product is weak, you can activate the **Digital Clean View** feature to reduce any static and ghosting that may appear on the screen.

- **Off** / **Low** / **Medium** / **High** / **Auto** / **Auto Visualization**
  - **Auto Visualization**: When changing analog channels, displays signal strength.
  - When the signal is weak, try all the options until the the product displays the best picture.

## MPEG Noise Filter

Reduces MPEG noise to provide improved picture quality.

- **Off** / **Low** / **Medium** / **High** / **Auto**




– The displayed image may differ depending on the model.

## HDMI Black Level

Selects the black level on the screen to adjust the screen depth.

- **Normal** / **Low**

— Available only in **HDMI** (PC connection) mode (Enabled only when the color format is RGB.).

## Film Mode

This mode is suitable to view movies.

Sets the product to automatically sense and process film signals from all sources and adjust the picture for optimum quality.

- **Off** / **Auto1** / **Auto2**

— Available in **TV**, **AV**.

## Dynamic Backlight

Automatically adjust the backlight to provide the best possible screen contrast under the current conditions.

- **Off** / **On**.

# Picture Off

MENU → Picture → Picture Off → ENTER

– The displayed image may differ depending on the model.

Selecting **Picture Off** switches off the screen. The volume is not disabled.

To switch the screen on, press any button other than the volume button.

# Reset Picture

MENU → Picture → Reset Picture → ENTER

– The displayed image may differ depending on the model.

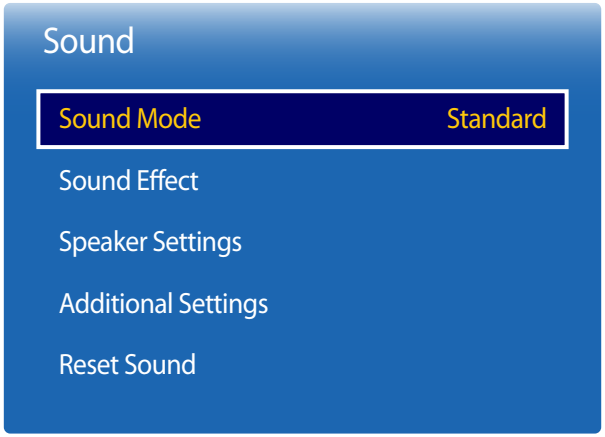
Resets your current picture mode to its default settings.

# Chapter 06
# Sound Adjustment

Configure the sound (**Sound**) settings for the product.

## Sound Mode

**MENU** ▥ → **Sound** → **Sound Mode** → **ENTER** ↵




– The displayed image may differ depending on the model.

You can select a sound mode to suit your personal preferences.

- **Standard**: Selects the normal sound mode.
- **Music**: Emphasizes music over voices.
- **Movie**: Provides the best sound for movies.
- **Clear Voice**: Emphasizes voices over other sounds.
- **Amplify**: Increase the intensity of high-frequency sound to allow a better listening experience for the hearing impaired.

# Sound Effect

**MENU** → **Sound** → **Sound Effect** → **ENTER**

– The displayed image may differ depending on the model.

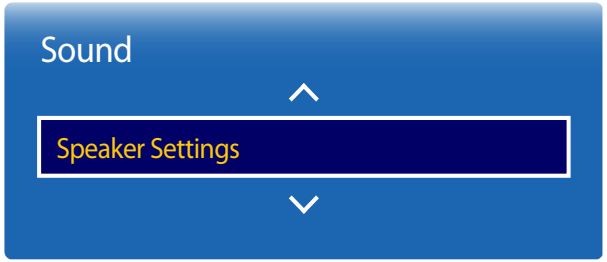
Configure your preferred sound effect for output sound.

— Available only when **Sound Mode** is set to **Standard**.

- **DTS TruSurround HD** (**Off** / **On**)
  This function provides a virtual 5.1 channel surround sound experience through a pair of speakers using HRTF(Head Related Transfer Function) technology.
- **DTS TruDialog** (**Off** / **On**)
  This function allows you to increase the intensity of a voice over background music or sound effects so that dialog can be heard more clearly.
- **Equalizer**
  Use **Equalizer** to customize sound setting for each speaker.
  - **Balance L/R**: Adjusts the balance between the right and left speaker.
  - **100Hz** / **300Hz** / **1kHz** / **3kHz** / **10kHz** (Bandwidth Adjustment): Adjusts the level of specific bandwidth frequencies.
  - **Reset**: Resets the equalizer to its default settings.

# Speaker Settings

MENU → Sound → Speaker Settings → ENTER




– The displayed image may differ depending on the model.

- **Auto Volume** (**Off** / **Normal** / **Night**)

  The volume can vary depending on the channel.

  Automatically equalize the volume level when switching to another channel.

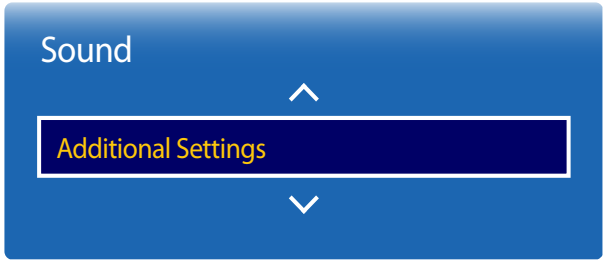
  – **Normal** equalizes the volume level on each channel, so that when you change channels, the volume level is the same.

  – **Night** equalizes and decrease the volume level on each channel, so each channel is quieter. **Night** is useful at night, when you may want to keep the volume low.

  — To use the volume control of a connected source device, set **Auto Volume** to **Off**. A change to the volume control of the connected source device may not be applied if **Auto Volume** is set to **Normal** or **Night**.

# Additional Settings

MENU → Sound → Additional Settings → ENTER




– The displayed image may differ depending on the model.

## DTV Audio Level

(Digital channels only)

The **TV** cannot freely control the volume of the digital audio that it sends to the AV receiver. Use this to set the digital audio volume at a comfortable level.

— According to the type of broadcast signal, MPEG / HE-AAC can be adjusted between -10dB and 0dB.

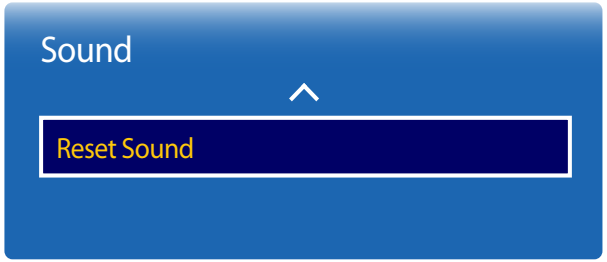
— To increase or decrease the volume, adjust between the range 0 and -10 respectively.

## Dolby Digital Comp

Some digital TV programmes provide 5.1-channel Dolby audio. This TV converts Dolby audio to stereo audio so that it can play the sound through the TV's speakers. There are two methods to choose from. **RF** is for better sound at lower volumes, and **Line** is for higher volumes.

# Reset Sound

MENU → Sound → Reset Sound → ENTER




– The displayed image may differ depending on the model.

Reset all sound settings to the factory defaults.

# Chapter 07
# Broadcasting

Configure the **Broadcasting** settings for the product.

## Auto Tuning

**MENU** → **Broadcasting** → **Auto Tuning** → **ENTER**

– The displayed image may differ depending on the model.

– Available in **TV** mode only.

The **Auto Tuning** function memorizes all channels that are available over the air or through your cable system and adds them to the **Channel List**.

To start **Auto Tuning**, follow these steps:

1 Push **MENU** → **Broadcasting** → **Auto Tuning** → **ENTER** on your remote. The **Auto Tuning** screen appears.

2 On the **Auto Program** screen, select the source of your product signal.

— **Air**: If your product is connected to an antenna choose **Air**, and then press **ENTER**. The product will automatically start memorizing channels.

— **Cable**: If your product is connected to a cable outlet, choose **Cable**, and then press **ENTER**. Go to Step 3.

3 On the cable type screen, use the ▲ / ▼ buttons to select the type of digital and analog cable systems you have: STD, HRC, or IRC. Most systems are STD (Standard). When done, select **Next**, and then press **ENTER**. The product will start memorizing channels.

— Channel memorization can take up to 45 minutes, depending on your cable system.

— Memorized channels are added to the **Added Ch.** list. These are the channels you will see when you use the channel buttons on your remote.

### Cancelling Auto Tuning

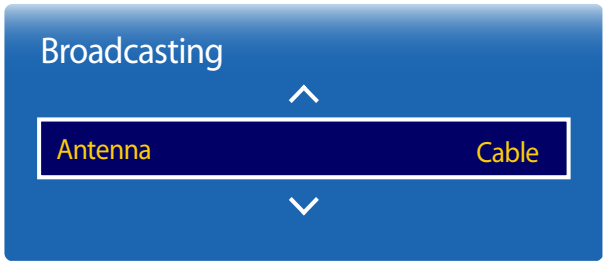
1 Press the **Stop** button.

2 A **Stop Auto Tuning?** message appears.

3 Press the **Yes** button.

# Antenna

MENU → Broadcasting → Antenna → ENTER




– The displayed image may differ depending on the model.

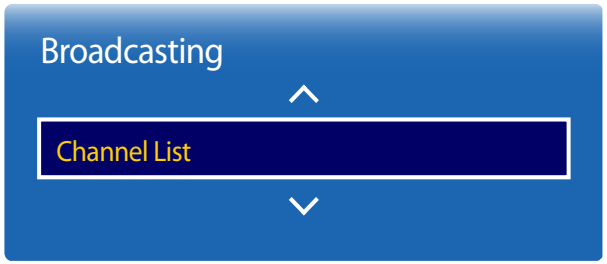
– Available in **TV** mode only.

Before your television can begin memorizing the available channels, you must specify the type of signal source that is connected to the LED display.

- **Air** / **Cable**

# Channel List

MENU → Broadcasting → Channel List → ENTER




– The displayed image may differ depending on the model.

– Available in **TV** mode only.

Register or delete channels. Add favorite channels or rename analog channels.

Select a desired channel from **Channel List** to view the channel instantly.

— To navigate **Channel List** faster, press the channel buttons. The channel list changes page by page.

### Icons found in the channel list page

- A: Analog channel
- : A channel that is selected
- : Locked channels

Pressing the right cursor (▶) button on the remote control displays the **Mode** page.

## Mode

### Antenna

Select either **Air** or **Cable** as digital channel mode.

### Edit Favorites

Edit favorite channel lists from **Edit Favorites**.

### Favorites 1 ~ Favorites 5

Shows all favorite channels, in up to five groups. Each group has a separate screen.

— The TV displays favorite groups only if you have added favorites using **Favorites 1** - to - **Favorites 5**.

### All

Shows all channels.

### TV

Shows channels.

### Analog

Shows Analog channels.

# Guide

MENU → Broadcasting → Guide → ENTER

- The displayed image may differ depending on the model.
- Available in **TV** mode only.

The **Guide** provides an overview of each digital channel's program lineup. You can check the program schedules and set up a **Schedule Manager**.

— The information in the **Guide** is for digital channels only. Analog channels are not supported.

You can press the color keys on the remote to access optional functions.

## Quick Nav

Search channel information quickly.

## Schedule Manager

Access the **Schedule Manager** function.

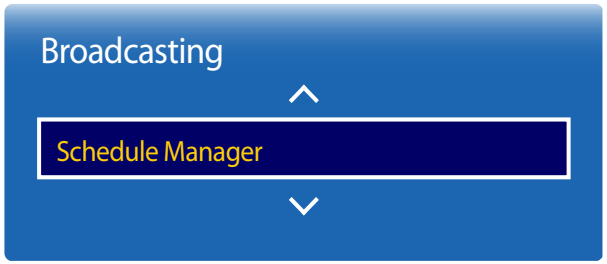
You can view information on the **Schedule Manager**.

## Channel Category

The **Channel List** varies depending on the selected option.

# Schedule Manager

MENU → Broadcasting → Schedule Manager → ENTER




– The displayed image may differ depending on the model.

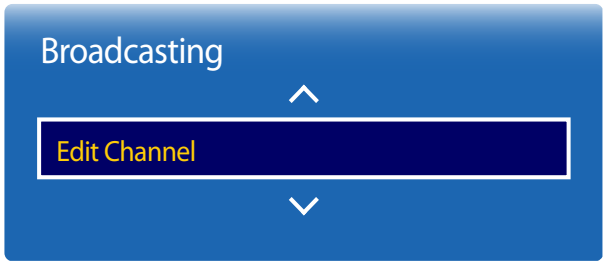
– Available in **TV** mode only.

Watch a desired channel at a scheduled time.

- **Antenna**: **DTV Cable** / **Cable** / **DTV Air** / **Air**
- **Channel**: Select the desired channel.
- **Repeat**: **Once** / **Manual** / **Sat~Sun** / **Mon~Fri** / **Everyday**
  — Select **Manual** if you want to configure settings by day of the week.
- **Date**: Select the desired date.
- **Start Time**: Set the time to watch the desired channel.

# Edit Channel

MENU → Broadcasting → Edit Channel → ENTER




– The displayed image may differ depending on the model.

– Available in **TV** mode only.

Manage channels saved on your TV. Delete channels, re-register deleted channels or rename analog channels.

— Conveniently configure settings using the remote control buttons displayed at the bottom of the screen.

## Icons found in the edit channel page

- A: Analog channel
- : A channel that is selected
- : Locked channels

## Deleting/registering channels

### Deleting channels

Delete channels, if required. Note that deleting channels from the **Recently Viewed** or **Mostly Viewed** category does not remove the channels permanently. The channels are only removed from the categories.

1 Select channels to delete from the screen. To cancel, select again.

2 After selecting channels, select **Delete** from the screen to delete the channels.

### Re-registering deleted channels

Register deleted channels again, if required. Deleted channels are grayed out and can only be found in the list of all channels. The register function is enabled for deleted channels only.

1 Press **TOOLS** on the screen to display the **Tools** page. Select **Category** from the sub-menu items and then select **All**.

2 From the list of all channels, select deleted channels you want to register again.

3 After selecting channels, select **Add** from the screen to re-register the channels.

## Editing registered channels

Pressing **TOOLS** from the **Edit Channel** page displays the following menu items. Provided functions may vary depending on the broadcast signal.

| Option Name | Operations |
|---|---|
| **Sorting** | Select either **Air** or **Cable** as digital channel mode. |
| **Category** | Channels saved on your TV are classified under the **All**, **TV**, **Analog**, **Recently Viewed** and **Mostly Viewed** categories. Select a desired category. |
| **Edit Favorites** | Set frequently viewed channels as favorite channels. |
| **Rename Channel** | Change the names of analog channels to suit your preferences. A channel name can be up to five characters long. |
| **Channel Info** | Check the information of the channel. |
| **Information** | View information about the current broadcast program on the air. |

## Locking/unlocking channels using a password

Lock specific channels to prevent children from accessing inappropriate content.

— To set a password, make sure **Channel Lock** is set to **On**.

### Locking channels

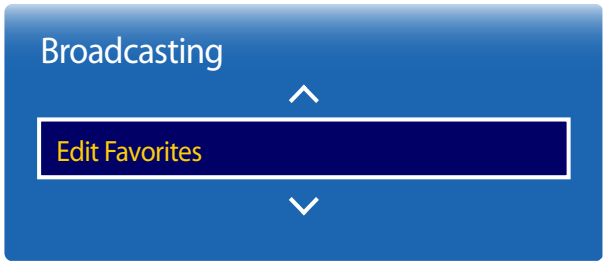
1. Select a channel from the **Edit Channel** page, and then select **Channel Lock** from the screen. The password input window is displayed.
2. Enter the password. The selected channel is locked.

### Unlocking channels

1. Select a locked channel from the **Edit Channel** page, and then select **Channel Lock Off** from the screen. The password input window is displayed.
2. Enter the password. The selected channel is unlocked.

# Edit Favorites

MENU → Broadcasting → Edit Favorites → ENTER




- The displayed image may differ depending on the model.
- Available in **TV** mode only.

## Creating a favorite channel list

Set frequently viewed channels as favorite channels. Favorite channels are indicated by a symbol in the **Edit Channel** or **Channel List** page. A maximum of five favorite channel lists are allowed. Create different favorite channel lists for each family member.

— Conveniently configure settings using the remote control buttons displayed at the bottom of the screen.

### Adding the current channel to a favorite channel list

Add the channel you are currently watching to a favorite channel list.

1. When watching TV, press **TOOLS** to display the **Tools** page. Select **Edit Favorites** from the sub-menu items.
2. From the displayed prompt box, select a favorite channel list to save the current channel to. Select **OK**.
3. The current channel is added in the selected favorite channel list. Select **OK**.

### Adding multiple channels to a favorite channel list

Add multiple channels to a favorite channel list, if required.

1. Select **Category** from the screen to change the channel list in the center of the screen to the channel list that contains the channels to add. Each time **Category** is selected, the category switches in the order **Recently Viewed**, **Mostly Viewed**, and **All**, **TV**, **Analog**.

   — **Recently Viewed** and **Mostly Viewed** are only enabled if they contain saved channels.
2. Select desired channels from the channel list in the center of the screen.
3. Select **Change Fav.** from the screen to change the favorite channel list on the right to another desired favorite channel list.
4. Select **Add** from the screen. The selected channels will create a favorite channel list.

### Viewing channels saved under a favorite channel list

— Favorite channel lists are only displayed if they have been created previously.

When changing the channel using the channel buttons, channels saved in favorite channel lists can only be accessed.

1 Select **Channel List** from the **Channel** menu. The channel list is displayed.

2 Pressing the right cursor (▶) button on the remote control displays the **Mode** page.

3 Select a favorite channel list among **Favorites 1** – **Favorites 5**.

4 Select channels from the selected favorite channel list.

— Selecting **Channel List** while watching a favorite channel will display the updated favorite channel list.

## Editing favorite channel lists

Pressing **TOOLS** from one of the **Favorites 1** - to - **Favorites 5** pages displays the following menu items.

| Option Name | Operations |
|---|---|
| **Copy to Favorites** | Copy channels from a favorite channel list to another favorite channel list.<br>— This option is only available when channels under a favorite channel list are selected. |
| **Rename Favorites** | Change the name of a favorite channel list.<br>— This option is only available when channels under a favorite channel list are selected. |
| **Antenna** | Select either the **Air** or **Cable** signal. |
| **Edit Channel** | Manage saved channels. |
| **Information** | View information about the current broadcast program on the air. |

### Deleting channels from a favorite channel list

Delete channels from a favorite channel list, if required.

1 Select **Change Fav.** from the screen to change the favorite channel list on the right to another desired favorite channel list.

2 Select channels to delete from the selected favorite channel list.

3 Select **Delete** from the screen. The selected channels are deleted from the favorite channel list.

### Changing the order of channels in a favorite channel list

Change the order of channels saved in a favorite channel list, if required.

1 Select **Change Fav.** from the screen to change the favorite channel list on the right to another desired favorite channel list.

2 Select channels to rearrange from the selected favorite channel list.

3 Select **Change order** from the screen, and then change the order of the selected channels. To apply the new order of the channels, press the ↵ button.

### Renaming a favorite channel list

Change the name of a favorite channel list, if required.

1 Select **Change Fav.** from the screen to change the favorite channel list on the right to another desired favorite channel list.

2 Press **TOOLS** on the screen. Sub-menu items are displayed.

3 Select **Rename Favorites** from the sub-menu items. A prompt box appears.

4 Change the favorite channel list using the prompt box. The name for a favorite channel list can be up to 20 characters long.

### Copying channels between favorite channel lists

Copy channels from a favorite channel list to another favorite channel list, if required.

1 Select **Change Fav.** from the screen to change the favorite channel list on the right to another desired favorite channel list.

2 Select channels to copy from the favorite channel list on the right.

3 Press **TOOLS** on the screen. Sub-menu items are displayed.

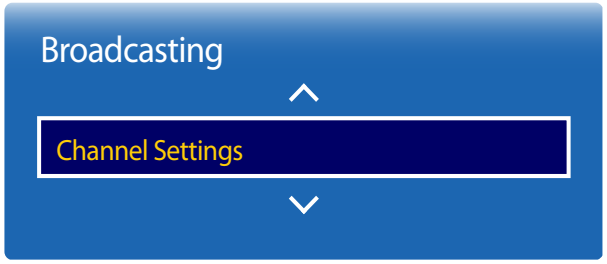
4 Select **Copy to Favorites** from the sub-menu items. A prompt box appears.

5 Select favorite channel lists to copy the channels to using the prompt box. The channels are saved to the selected favorite channel lists.

— To use **Copy to Favorites**, make sure channels are saved in a favorite channel list.

# Channel Settings

MENU → Broadcasting → Channel Settings → ENTER




- The displayed image may differ depending on the model.
- Available in **TV** mode only.

## Digital Manual Tuning

Scans for a channel manually and stores in the **TV**.

If a channel is locked using the **Channel Lock** function, the PIN input window appears.

This function depends on the country and region.

## Fine Tune

(analog channels only)

If the reception is clear, you do not have to fine tune the channel, as this is done automatically during the search and store operation. If the signal is weak or distorted, fine tune the channel manually. Scroll to the left or right until the image is clear.

— This function is only available for analog channels.

— Settings are applied to the channel you're currently watching.

— Fine tuned channels that have been saved are marked with an asterisk "*" on the right-hand side of the channel number in the channel banner.

— To reset the fine-tuning, select **Reset**.

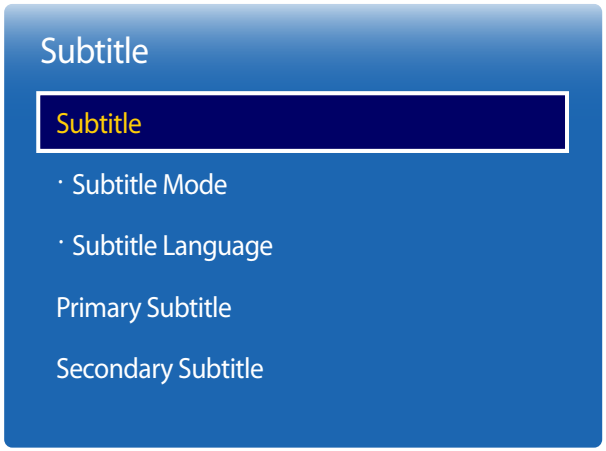
## Color System

Change the **Color System** according to the broadcast signal.

- **Auto** / **PAL-M** / **PAL-N** / **NTSC**

# Subtitle

MENU → Broadcasting → Subtitle → ENTER




– The displayed image may differ depending on the model.

– Available in **TV** mode only.

Configures the subtitle options.

## Subtitle

(digital channels only)

Show subtitles.

- **Subtitle Mode**: Set the subtitle mode.
- **Subtitle Language**: Set the subtitle language.

## Primary Subtitle

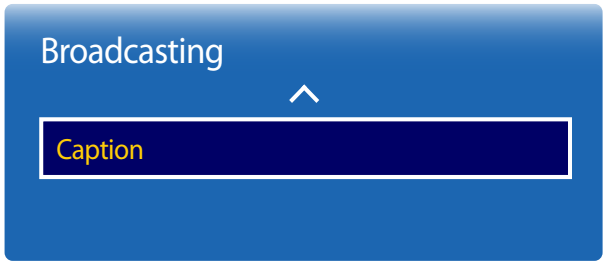
Set the primary subtitle language.

## Secondary Subtitle

Set the secondary subtitle language.

# Caption

MENU → Broadcasting → Caption → ENTER




– The displayed image may differ depending on the model.

– Available in **TV** mode only.

## Caption

(analog channels only)

You can switch the caption function on or off.

If captions are not available, they will not be displayed on the screen.

- **Off** / **On**

— The **Caption** feature does not work with devices connected to the product through the **HDMI** input jacks.

## Caption Mode

You can select the caption mode to use.

— The caption feature is available depending on the content being broadcast.

- **Default** / **CC1** ~ **CC4** / **Text1** ~ **Text4** (in analog channels only) : Select the caption mode to use on analog channels. (Except for **Default**, some caption modes may not be available depending on the broadcasting signal.)
- **Default** / **Service1** ~ **Service6** / **CC1** ~ **CC4** / **Text1** ~ **Text4** (in digital channels only) : Select the caption mode to use on digital channels. (Except for **Default**, some caption modes may not be available depending on the broadcasting signal.)

— If you are not sure about which caption mode is available for a channel, set the **Caption Mode** to **Default**.

## Digital Caption Options

You can customize **Caption** settings when the **Caption Mode** is set to one of **Service1** to **Service6**.

(digital channels only)

Configure the subtitle settings such as size and color.

Adjusts the each option. When done, select **Close**.

- **Size**: Options include **Default**, **Small**, **Standard** and **Large**. The default is **Standard**.
- **Font Style**: Select the caption fonts.
- **Font Color**: You can change the color of the letters. Options include **Default**, **White**, **Black**, **Red**, **Green**, **Blue**, **Yellow**, **Magenta** and **Cyan**. The default is **White**.
- **Background Color**: You can change the background color of the caption. Options include **Default**, **White**, **Black**, **Red**, **Green**, **Blue**, **Yellow**, **Magenta** and **Cyan**. The default is **Black**.
- **Font Opacity**: This adjusts the opacity of text. Options include **Default**, **Transparent**, **Translucent**, **Solid** and **Flashing**.
- **Background Opacity**: This adjusts the opacity of the caption background. Options include **Default**, **Transparent**, **Translucent**, **Solid** and **Flashing**.
- **Return to Default**: This option sets each **Size**, **Font Color**, **Background Color**, **Font Opacity** and **Background Opacity** to their default.

— **Digital Caption Options** are available only when you can select **Return to Default** and **Service1** ~ **Service6** in **Caption** mode.

— The availability of captions depends on the program being Broadcasted.

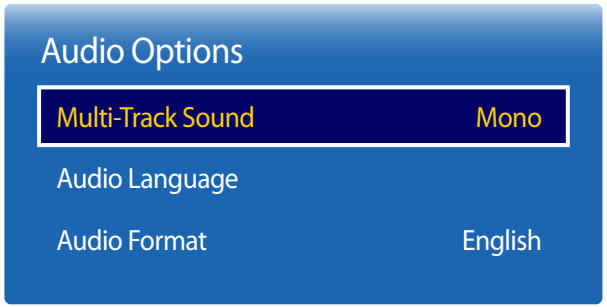
— The **Return to Default** setting follows the standards set by the broadcaster.

— You cannot set the **Font Color** and **Background Color** to the same color.

— You cannot set both the **Font Opacity** and the **Background Opacity** to the same color.

# Audio Options

MENU → Broadcasting → Audio Options → ENTER




– The displayed image may differ depending on the model.

– Available in **TV** mode only.

## Multi-Track Sound

Select an option using the up and down arrow keys, and the press .

- **Mono**: Choose for channels that are Broadcasting in mono or if you are having difficulty receiving a stereo signal.
- **Stereo**: Choose for channels that are Broadcasting in stereo.
- **SAP**: Choose to listen to the Separate Audio Program, which is usually a foreign-language translation.

— Depending on the program being broadcast, you can listen to **Mono**, **Stereo** or **SAP**.

## Audio Language

(for digital broadcasts)

Change the default value for audio languages.

Select the type of audio languages in the current channel.

- **Audio Language** / **Primary Audio** / **Secondary Audio**

— The available language may differ depending on the broadcast.

## Audio Format

(for digital broadcasts)

Change a desired audio format. The supported audio format may vary depending on the broadcast program.

# Channel Lock

MENU → Broadcasting → Channel Lock → ENTER

- The displayed image may differ depending on the model.
- Available in **TV** mode only.

Prevent your children from accessing harmful content by locking channels.

- **On** / **Off**

— This option is available when the input source is **TV**.

— The default PIN number for a new product set is "0-0-0-0".

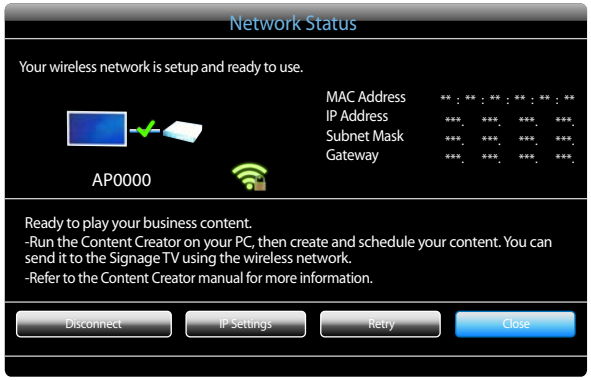
— Availability depends on the specific model and area.

# Chapter 08
# Network

## Network Status

**MENU** → **Network** → **Network Status** → **ENTER**

You can check the current network status.

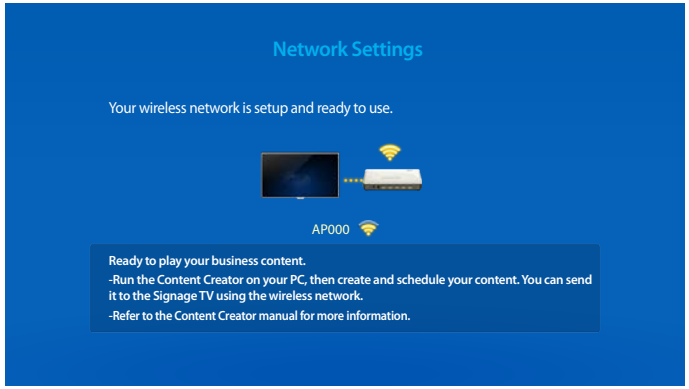

Network Status
Your wireless network is setup and ready to use.
MAC Address
IP Address
Subnet Mask
Gateway
AP0000
Ready to play your business content.
-Run the Content Creator on your PC, then create and schedule your content. You can send it to the Signage TV using the wireless network.
-Refer to the Content Creator manual for more information.
Disconnect
IP Settings
Retry
Close

– The displayed image may differ depending on the model.

## Network Settings

**MENU** → **Network** → **Network Settings** → **ENTER**

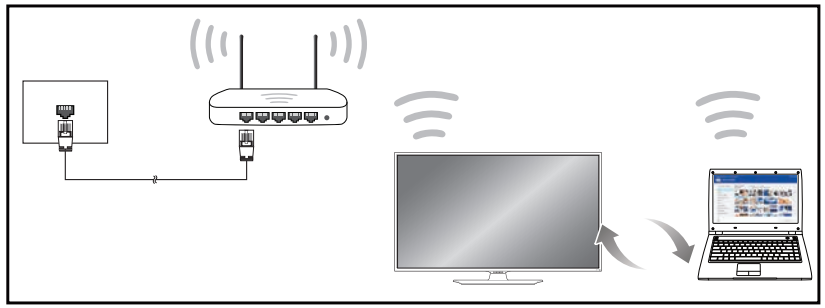
Connect to a wireless network and use the product as a TV+signage using **MagicInfo Express Content Creator** on your PC.


Network Settings
Your wireless network is setup and ready to use.
AP000
Ready to play your business content.
-Run the Content Creator on your PC, then create and schedule your content. You can send it to the Signage TV using the wireless network.
-Refer to the Content Creator manual for more information.

– The displayed image may differ depending on the model.

# Network Setting (Wireless)

## Connecting to a Wireless Network



Samsung recommends using IEEE 802.11n. When you play video over a network connection, the video may not play smoothly.

- Select a channel for the wireless IP sharer that is not currently being used. If the channel set for the wireless IP sharer is currently being used by another device nearby, this will result in interference and communication failure.
- Your product supports only the following wireless network security protocols.
  If you select the Pure High-throughput (Greenfield) 802.11n mode and the Encryption type is set to WEP, TKIP or TKIP AES (WPS2Mixed) on your AP or wireless router, Samsung products will not support a connection in compliance with new Wi-Fi certification specifications.
- If your wireless router supports WPS (Wi-Fi Protected Setup), you can connect to the network via PBC (Push Button Configuration) or PIN (Personal Identification Number). WPS will automatically configure the SSID and WPA key in either mode.
- Connection Methods: You can setup the wireless network connection in three ways.
  Auto Setup (Using the Auto Network Search function), Manual Setup, **WPS(PBC)**

## Automatic Network Setup (Wireless)

Most wireless networks have an optional security system that requires devices that access the network to transmit an encrypted security code called an Access or **Connection Information**. The **Connection Information** is based on a Pass Phrase, typically a word or a series of letters and numbers of a specified length you were asked to enter when you set up security for your wireless network. If you use this method of setting up the network connection, and have a **Connection Information** for your wireless network, you will have to enter the Pass Phrase during the the automatic or manual setup process.

### How to set up automatically

1. Go to **MENU** → **Network** → **Network Settings**.
2. The **Network** function searches for available wireless networks. When done, it displays a list of the available networks.
3. In the list of networks, press the ▲ or ▼ button to select a network, and then press the button.
   - If the desired wireless router does not appear, select **Refresh** to search again.
   - If the router cannot be found after retrying, select the **Stop** button.
     The **Add Network** button appears.
     Select **Add Network** to add a wireless router to connect to.
4. If the **Enter password.** screen appears, go to step 5. If you select a wireless router that does not have security, go to step 7.
5. If the router has security, enter the **Enter password.** (Security key or PIN).

6 When done, use the down arrow button to move the cursor to **Done**, and then press ⏎. The network connection screen appears and the verification process starts.

— This product cannot connect to the Internet via **Soft AP (Wi-Fi Hotspot)** or **Wi-Fi Direct**.

7 When the connection has been verified, the "**Your wireless network is setup and ready to use.**" message appears.

## Manual Network Setup (Wireless)

Offices may use static IP addresses.

If this is the case, ask the network administrator for the IP address, subnet mask and gateway. Enter these values manually.

### Getting the Network Connection Values

To view the Network connection values on most Windows computers, follow these steps.

1 Right click the Network icon on the bottom right of the screen.

2 In the pop-up menu that appears, click Status.

3 On the dialog that appears, click the **Support** tab.

4 On the **Support** Tab, click the **Details** button. The Network connection values are displayed.

### How to set up manually

On the product, go to **MENU** ▥ → **Network** → **Device Name** and change the product's device name.

— If you are using multiple products, make sure to change their device names.

1 Go to **MENU** ▥ → **Network** → **Network Settings**.

2 The **Network** function searches for available wireless networks. When done, it displays a list of the available networks.

3 In the list of networks, press the ▲ or ▼ button to select a network, and then press the ⏎ button twice.

— If the desired wireless router does not appear, select **Refresh** to search again.

— If the router cannot be found after retrying, select the **Stop** button.
The **Add Network** button appears.
Select **Add Network** to add a wireless router to connect to.

4 If the **Enter password.** screen appears, go to step 5. If you select a wireless router that does not have security, go to step 7.

5 If the router has security, enter the **Enter password.** (Security key or PIN).

6 When done, use the right arrow button to move the cursor to **Done**, and then press ⏎. The network connection screen appears and the verification process starts.

7 Select **Stop** while network connections are being attempted. This will stop the connection.

8 Select **IP Settings** on network connection screen. The **IP Settings** screen appears.

9 Select the field at the top, press ⏎, and then set **IP Settings** to **Enter manually**. Repeat the entry process for each field in the **IP Address**.

10 When done, select **OK** at the bottom of the page, and then press ↵. The network test screen appears and the verification process starts.

11 When the connection has been verified, the "**Your wireless network is setup and ready to use.**" message appears.

# WPS(PBC)

## How to set up using WPS(PBC)

If your router has a **WPS(PBC)** button, follow these steps.

1 Go to **MENU** ▥ → **Network** → **Network Settings**.

2 Select **WPS(PBC)**, press ↵, and then press ↵ again.

3 Press the **WPS(PBC)** button on your router within 2 minutes. Your product automatically acquires all the network setting values it needs and connects to your network.

4 The network connection screen appears, and network setup is done.

# Soft AP (Wi-Fi Hotspot)

**MENU** → **Network** → **Soft AP (Wi-Fi Hotspot)** → **ENTER**

Using this function, you can connect the product on your mobile devices if your mobile devices do not support **Wi-Fi Direct**.
Set the options for connection of Wi-Fi device.

- **Soft AP (Wi-Fi Hotspot)**
  Turns on or off the **Soft AP (Wi-Fi Hotspot)**. When **Soft AP (Wi-Fi Hotspot)** is set to **On**, your mobile devices can find the product name in Wi-Fi connection list.
- **Connection Information**
  Displays the TV name (SSID) and password.
- **Reset password**
  Powering on the display creates a new security key and disconnect any existing **Soft AP (Wi-Fi Hotspot)** connection.
  - **Off** / **On**
- **Advanced Settings**
  Change detailed Wi-Fi settings.
  - **Channel** (**CH.1** ~ **CH.11**)
    Change Wi-Fi channel settings.
  - **Signal Level** (**Level 1** ~ **Level 5**)
    Change Wi-Fi signal level settings.

# Wi-Fi Direct

To use this function, your mobile device should be supported by the **Wi-Fi Direct**.

**MENU** → **Network** → **Wi-Fi Direct** → **ENTER**

Set to connect the product to wireless mobile devices. Using this function, you can connect wireless mobile devices with your product directly without a router.

## To connect your mobile device with your product using Wi-Fi Direct, follow these steps:

1 Go to **Wi-Fi Direct** screen. The product starts to search devices.

2 Turn on the **Wi-Fi Direct** function on your device. Select the desired Wi-Fi device.

- PBC (Push Button Configuration): Press the **WPS(PBC)** button on your Wi-Fi device within 2 minutes. Your product automatically acquires all the network setting values it needs and connects to your network.
- **PIN**: Input the displayed **PIN** on your device.

— If you want to disconnect the device, select the connected Wi-Fi device, and then select **Disconnected**.

# AllShare Settings

**MENU** → **Network** → **AllShare Settings** → **ENTER**

Shows a list of mobile phones or connected devices which have been set up to use the **AllShare Play** function with this product.

- **Allow** / **Deny**: Allows/Blocks the devices.
- **Delete from the list**: Deletes the devices from the list.

  — This function only deletes the name of the device from the list. If the deleted device is turned on or tries to connect to the product, it may appear on the list again.

## Using the AllShare Play Function

An alarm window appears informing you that media contents (videos, photos, music) sent from a mobile phone will be displayed on your product. The contents are played automatically 3 seconds after the alarm window appears. If you press the **RETURN** or **EXIT** button when the alarm window appears, the media contents are not played.

— The first time a device accesses your product through the media function, a warning popup window appears. Press the button to select **Allow**. This permits the phone to access the product freely and use the **AllShare Play** function to play content.

— To turn off media contents transmissions from a mobile phone, set **Deny** in the **AllShare Settings**.

— Contents may not play on your product depending on their resolution and format.

— The and ◄ / ► buttons may not work depending on the type of media content.

— Using the mobile device, you can control the **AllShare Play**. For details, refer to each mobile's user's guide.

# Device Name

**MENU** → **Network** → **Device Name** → **ENTER**

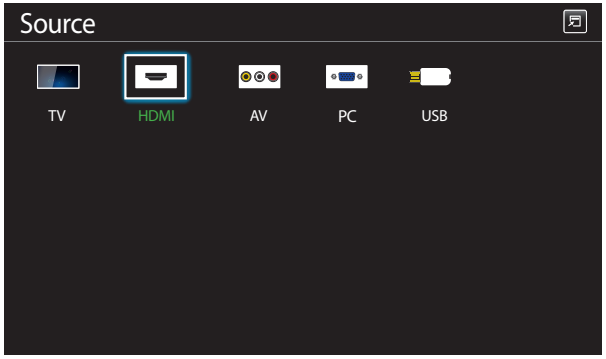
Select or enter a device name.

This name can be shown on network remote controls over the network.

# Chapter 09
# Applications

## Source List

MENU → Applications → Source List → ENTER




– The displayed image may differ depending on the model.

**Source** allows you to select a variety of sources and change source device names.

You can display the screen of a source device connected to the product. Select a source from source list to display the screen of the selected source.

— The input source can also be changed by using the **SOURCE** button on the remote control.

— The screen may not display correctly if an incorrect source is selected for the source device you want to convert to.

— To view detailed information about connected source devices, press the **TOOLS** button from the **Source** page.

— If the product is in portrait orientation, it is not possible to change **Source List**.

### Edit Name

SOURCE → Source → TOOLS → Edit Name → ENTER

Sometimes the screen will not display properly unless the name of a source device is specified in **Edit Name**.

In addition, it is best to rename the source device in **Edit Name** to obtain optimal picture quality.

— The list can include the following source devices. **Source** devices on the list differ depending on the selected source.
**PC** / **Cable STB** / **Satellite STB** / **PVR STB** / **Game** / **Blu-ray** / **DVD** / **VCR** / **AV Receiver** / **Camcorder** / **DVI PC** / **DVI Devices** / **TV** / **IPTV** / **HD DVD** / **DMA**

— Available settings in the **Picture** menu depend on the current source and settings made in **Edit Name**.

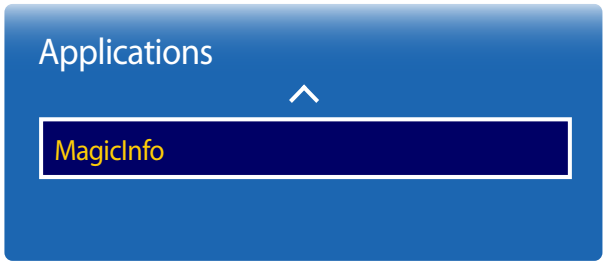
### Information

SOURCE → Source → TOOLS → Information → ENTER

You can see detailed information about the selected external device.

# MagicInfo

MENU → Applications → MagicInfo → ENTER




- Press **HOME** or **MagicInfo Player I** on the remote control to access the application more quickly.
- The displayed image may differ depending on the model.

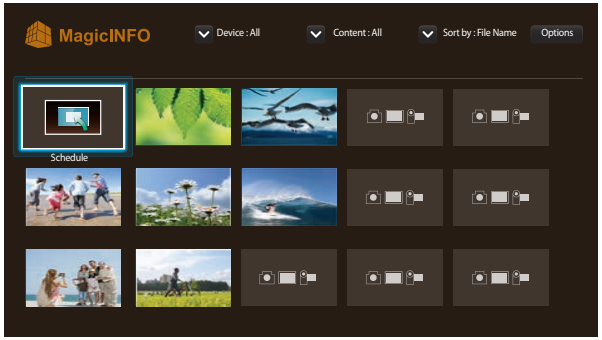
**MagicInfo** is a business solution that allows the product to be used as a signage (advertising media). Using the solution, play image and video files from the internal memory or a connected USB storage device. You can also play schedules created using the **MagicInfo Express Content Creator** on your computer.

## Playing content from the internal memory or USB

Play content from the internal memory or a connected USB storage device.

## Playing PC or mobile content

Send content via the **MagicInfo Express Content Creator** or a mobile app to the product for playback. If the internal memory is insufficient, connect a USB device and go to **Options** → **Settings** → **Default Storage** at the top right of the **MagicInfo** browser. Change the option to **USB**.




– The displayed image may differ depending on the model.

# Schedule

Play configured schedules.

## Available features in the MagicInfo page

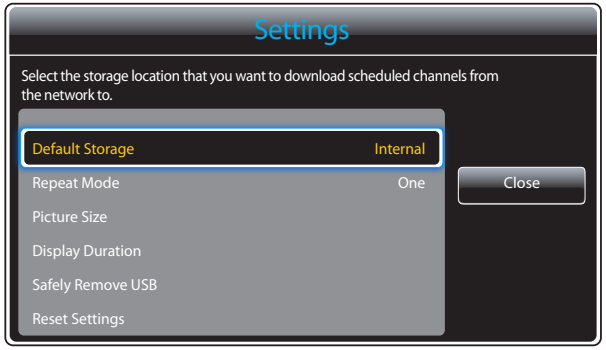
The **MagicInfo** list page provides the following features.

- **Device**
  – Select either **Internal** or **USB** to search for a desired device list.
  **All** / **Internal** / **USB**
- **Content**
  – Select a content type as criterion to search for a desired content list.
  **All** / **My Templates** / **Video** / **Image**
- **Sort by**
  Specify the content sort criterion.
  – **File Name** / **Recently Played**
- **Options**

### Options menu items in the MagicInfo screen

| Option Name | Operations |
|---|---|
| **Play Selected** | Select and play desired content. |
| **Send** | Copy content to another storage device. |
| **Delete** | Delete desired content. |
| **Settings** | Configure detailed properties of content.<br>— See the following page for details on the **Settings** feature. |

# Settings




– The displayed image may differ depending on the model.

## Default Storage

Select the storage location that you want to download scheduled channels from the network to.

- **Internal** / **USB**

## Repeat Mode

Set repeat mode whether to repeat playing contents or not.

- **One** / **All**

## Picture Size

Set **Picture Size** to either **Screen Fit** or **Original Size**.

- **Screen Fit** / **Original Size**

— Available only for **Video** and **Image** content.

## Display Duration

Set the duration for each page in a slideshow.

— Available only for **Template** and **Image** content.

## Safely Remove USB

Safely removes USB memory

## Reset Settings

Restore all the values under **Settings** to the default when the product was purchased.

# Chapter 10
# MagicInfo Express Content Creator

For more information, refer to the user guide for the **MagicInfo Express Content Creator** tool from the website.

Installation requirements

- HDD: At least 500 MB of free space
- Operating system: Windows XP or later
- Resolution: 1024x768 or higher

## Using MagicInfo Express Content Creator

**MagicInfo Express Content Creator** is a program that allows you to conveniently create content using a variety of templates. Using **MagicInfo Express Content Creator**, create and manage schedules to play content on the product at a specific time.

— To use the **MagicInfo Express Content Creator** tool, download the tool from http://www.samsung.com/displaysolutions.

- **Create Content**: Create and manage templates that will be played on Samsung display devices.
- **Schedule Content**: Create and manage schedules to play content at specified times.

### Managing templates

Using the templates provided in the program, organize a variety of content items based on predefined layouts to conveniently create new templates. Import and edit previously created templates.

### Managing schedules

Configure and manage schedules to play content on Samsung display devices at specific times. Set the same schedule to play on specified days of the week or set different schedules to play by day of the week.

# Chapter 11
# Playing photos, videos and music (Media Play)

Enjoy videos, photos, music files saved on a USB Mass Storage Class (MSC) device.

Play photos, videos or music saved on a storage device.

Play a variety of content using the following methods.

- Using a USB device: Play media content such as videos, photos and music from a USB device.
- Connecting a storage device: Play media content saved on a storage device such as a smartphone, camera, PC or cloud service.

## Read the following before using media play with a USB device

### Caution

- Before connecting a USB device to the product, back up files to ensure your data is not damaged or lost.
  Samsung Electronics is not liable for any damage or loss of data.
- Do not remove a USB device while it is loading.
- If a USB device is connected using a USB extension cable, the USB device may not be recognized or files saved on the device may not be able to be read.
- If the product does not recognize a connected USB device, the files on the USB device may be corrupted or may not be able to be played.
  If this occurs, connect the USB device to the PC to format the device, then make sure the device is connected properly.
- USB HDD greater than 2TB is not supported.

## Compatible devices with media play

- Some USB digital cameras, smartphones and audio devices may not be compatible with the product.
- Media play is only compatible with USB MSC devices.
- MSC device refers to a Mass Storage Class Bulk-Only Transport device.
  Examples of MSC devices include Thumb drives, Flash card readers and USB HDDs. (USB hubs are not supported.)
  These MSC devices must be connected directly to a USB port on the product.
- If more than one Picture Transfer Protocol (PTP) device is connected, only one will work at a time.
- If multiple MSC devices are connected, some devices may not be recognized. USB devices that require high power (higher than 500mA or 5V) may not be supported.
- If an overheating warning message appears when a USB device is connected or used, the USB device may not be recognized or function properly.
- The screensaver activates if the product is left idle for a period of time specified in **Auto Protection Time**.
- Power-saving mode on some external hard disk drives may automatically deactivate after connecting to the product.

## File system and formats

- Media play may not function properly with unlicensed multimedia files.
- Media Transfer Protocol (MTP) is not supported.
- Supported file systems include FAT16, FAT32 and NTFS (read only).
- Media play supports the sequential JPEG format.
  It does not support the progressive JPEG format.
- Images with a higher resolution take longer to be displayed on the screen.
- The maximum JPEG resolution supported is 15360x8640 pixels.
- If a file is incompatible or corrupted, a message **Not Supported File Format.** appears.
- When sorting files in folder view mode, a maximum of 1000 files can be displayed in each folder.
- If a USB device contains 8000 files and folders or more, some files and folders may not open.
- DRM MP3 files downloaded from websites that charge a fee cannot be played.

  — Digital Rights Management (DRM) refers to a system for protecting the copyrights of data circulated via the Internet or other digital media by enabling secure distribution and/or disabling illegal distribution of the data.

# Using a USB device

It is recommended to use a USB HDD that has a power adapter.

## Connecting a USB device

1 Turn on your product.

2 Connect a USB device containing photo, music and/or movie files to the USB port on the back or side panel of the product.

3 The **USB device connected.** page automatically appears as soon as a USB device connects to the product.

— If only one USB device is connected, files saved on the USB device are displayed automatically.

— To view content saved on a USB device, connect the USB device to a USB port on the product.

— Connecting a USB device automatically runs MagicInfo. To run Media Play, connect a USB device, close MagicInfo, and then select USB from **Source List**.

It is recommended to remove a USB device using the **Remove USB** function.

## Removing a USB device

### Removing a USB device from Source

1 Press **SOURCE** on the remote control. Alternatively, go to **Source** using the OSD menu.

**SOURCE** → **Source**

2 Select **USB** from **Source**, and then press the **TOOLS** button on the remote control. Optional menu items are displayed.

3 Select **Remove USB** and wait until the USB device is disconnected. The USB device is disconnected.

## Menu items in the media content list page

| Option Name | Operations | Photos | Videos | Music |
|---|---|---|---|---|
| **Slide Show** | Start a slideshow.<br>— This menu item is not available if **Sort by** is set to **Folder**. | ✓ | | |
| **Encoding** | Select an encoding language if the title of media content appears corrupted. | | | ✓ |
| **Play Selected** | Select and play desired content from the media content list. | ✓ | ✓ | ✓ |

# Available buttons and features during photo playback

Pressing the **INFO** button while a file is selected will display information about the selected file.

Pressing the ↵ or **TOOLS** button displays the following buttons. The **RETURN** button makes the buttons disappear.

- **Previous** / **Next**
  View the previous or next photo.
- **Start Slide Show** / **Stop Slide Show**
  Start or stop a slideshow. Using a slideshow, it is possible to play all photos in a folder.
- **Slideshow Settings**
  - **Speed**: Change the slideshow speed.
  - **Effects**: Apply transition effects between photos.
- **Zoom**
  Zoom in on photos up to 4x.
- **Rotate**
  Rotate photos.
- **Background Music**
  Play background music while viewing photos.
  - **Background Music** / **Mini Player**

  — Make sure a music file is saved on the same device.

  — Pause the current music playing or switch to another music file using **Mini Player**.
- **Settings**

| Option Name | Operations |
|---|---|
| **Picture Mode** | Change the **Picture Mode**. |
| **Sound Mode** | Change the **Sound Mode**.<br>— This menu item is only available when **Background Music** is playing. |
| **Information** | View information about a file. |

# Available buttons and features during video playback

Pressing the ⏎ or **TOOLS** button displays the following buttons. The **RETURN** button makes the buttons disappear.

- **Pause** / **Play**
  Pause or play a video.
  The following features are available in pause mode. Note that sound cannot be heard in pause mode.
- **Rewind** / **Fast forward**
  Rewind or fast forward a video. Speed up playback up to 3x, if required. To change the playback speed to the original speed, select ▶.
- **Previous** / **Next**
  To play the previous video, select ⏮ twice. Selecting ⏮ once will play the current video from the beginning.
  To play the next video, select ⏭.
- **Search**
  Select and play another video in the same folder. (**Search Titles**)
- **Repeat mode**
  Configure **Repeat mode**. (**Off**, **Repeat One**, **Repeat All**)
- **Picture Size**
  Change the screen size (**Picture Size**). Supported screen sizes vary depending on the image. (**Original** / **Mode1** / **Mode2** / **Smart View 1** / **Smart View 2**)
- **Settings**

| Option Name | Operations |
|---|---|
| **Picture Mode** | Change the **Picture Mode**. |
| **Sound Mode** | Change the **Sound Mode**. |
| **Audio Language** | Play a video using a desired language. This feature only activates when a streaming file that supports multiple audio formats is playing. |
| **Information** | View information about a file. |

# Available buttons and features during music playback

Pressing the ⏎ or **TOOLS** button displays the following buttons. The **RETURN** button makes the buttons disappear.

- **Pause** / **Play**
  Pause or play music.
- **Rewind** / **Fast forward**
  Rewind or fast forward music. Speed up playback up to 3x, if required. To play the previous music file, select ► twice.
- **Previous** / **Next**
  To play the previous music file, select ⏮ twice. Selecting ⏮ once will play the current music from the beginning.
  To play the next music file, select ⏭.
- **Repeat**
  Configure **Repeat** mode. **One song** plays the current music file repeatedly. **All** plays all files in a folder repeatedly.
- **Shuffle**
  Enable or disable shuffle playback mode.
- **Sound Mode**
  Change the **Sound Mode**.

# Supported Subtitle and Media play file formats

## Subtitle

| External | Internal |
| --- | --- |
| • MPEG-4 timed text (.ttxt)<br>• SAMI (.smi)<br>• SubRip (.srt)<br>• SubViewer (.sub)<br>• Micro DVD (.sub or .txt)<br>• SubStation Alpha (.ssa)<br>• Advanced SubStation Alpha (.ass)<br>• Powerdivx (.psb) | • Xsub<br>Container: AVI<br>• SubStation Alpha<br>Container: MKV<br>• Advanced SubStation Alpha<br>Container: MKV<br>• SubRip<br>Container: MKV<br>• MPEG-4 timed text<br>Container: MP4 |

## Compatible image file format

| Type |
| --- |
| **JPEG** |
| **MPO** |
| **BMP** |

## Supported music file formats

### File Extension

***.aac, *.flac, *.m4a, *.mid, *.midi,**

***.mp3, *.mpa, *.ogg, *.wav, *.wma**

## Supported Video Formats

- Video content will not play, or not play correctly, if there is an error in the content or the container.
- Sound or video may not work if the contents have a standard bitrate/frame rate above the compatible Frame/sec listed in the table above.
- If the Index Table is in error, the Seek (Jump) function is not supported.
- You may experience file stuttering while playing a video through a network connection.
- The menu may take longer to appear if the video's bit rate exceeds 10Mbps.
- Some USB/digital camera devices may not be compatible with the player.

### Video Decoder

Supports up to H.264, Level 4.1

H.264 FMO / ASO / RS, VC1 SP / MP / AP L4 and AVCHD are not supported.

For all Video codecs except MVC, VP8, VP6:

- Below 1280 x 720: 60 frame max
- Above 1280 x 720: 30 frame max

GMC 2 over is not supported.

Supports only BD MVC Spec.

### Audio Decoder

Supports up to WMA 10 Pro 5.1 channel.

WMA lossless audio is not supported.

QCELP, AMR NB/WB are not supported.

If Vorbis is only in Webm container, supports up to 2 channel.

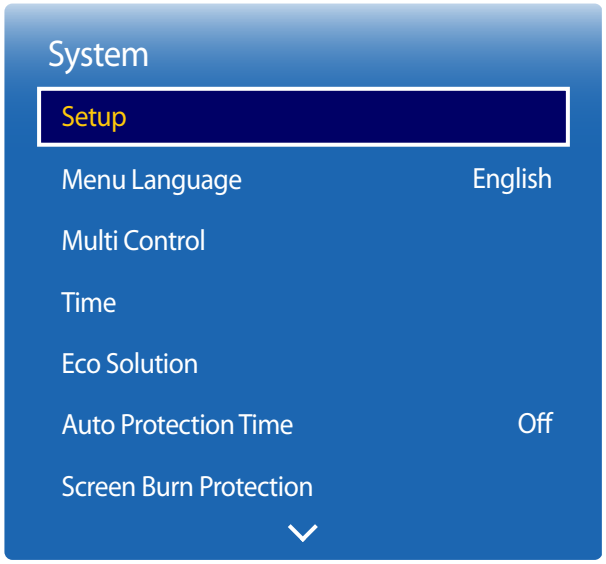
| Container | Video Codec | Resolution | Frame rate (fps) | Bit rate (Mbps) | Audio Codec |
|---|---|---|---|---|---|
| 3gpp<br>asf<br>avi<br>flv<br>mkv<br>mov<br>mp4<br>ps<br>ts<br>vob<br>vro | DivX 3.11 /DivX4 | 1280 x 720 | 60 | 30 | AAC<br>AC3<br>ADPCM<br>DD+<br>DTS Core<br>HE-AAC<br>LPCM<br>MP3<br>WMA |
| | XVID | | | | |
| | H.264 BP/MP/HP | | | | |
| | MPEG-4 SP/ASP | | | | |
| | WINDOW MEDIA VIDEO V9 | | | | |
| | MPEG2 | | | | |
| | MPEG1 | | | | |
| | H.263 | | | | |
| | DivX5 | | | | |
| | DivX6 | | | | |

| Container | Video Codec | Resolution | Frame rate (fps) | Bit rate (Mbps) | Audio Codec |
|---|---|---|---|---|---|
| 3gpp<br>asf<br>avi<br>flv<br>mkv<br>mov<br>mp4<br>ps<br>ts<br>vob<br>vro | DivX 3.11 /DivX4 | 1920 x 1080 | 30 | 30 | AAC<br>AC3<br>ADPCM<br>DD+<br>DTS Core<br>HE-AAC<br>LPCM<br>MP3<br>WMA |
| | XVID | | | | |
| | H.264 BP/MP/HP | | | | |
| | MPEG-4 SP/ASP | | | | |
| | WINDOW MEDIA VIDEO V9 | | | | |
| | MPEG2 | | | | |
| | MPEG1 | | | | |
| | H.263 | | | | |
| | DivX5 | | | | |
| | DivX6 | | | | |
| | MOTION JPEG | 640 x 480 | 30 | 8 | |

# Chapter 12
# System

## Setup

MENU → System → Setup → ENTER




– The displayed image may differ depending on the model.

## Initial settings (Setup)

After powering on the product for the first time, configure basic settings such as the language, channel and time.

Press the button. **Setup** is available only when **Source** is set to **TV**.

1 Selecting a language

Press the ▲ or ▼ button, and then press the button. Specify the OSD menu language.

2 **Regional Settings**

Select your region to optimize system.

— The displayed image may differ depending on the model.

3 Configure the TV settings.

TV input source setup.

Set **Channel Source** to **Set-top box** to display the **Source** options.

– **Set-top box** / **Antenna** / **No TV (Signage Only)**

4 **Auto Tuning**

This feature automatically searches and configures broadcast signals connected to the product.

To configure settings later, press the **Stop** button.

— **Auto Tuning** does not appear if **Set-top box** or **No TV (Signage Only)** is selected.

5 **Network Settings**

Select a wireless router from the list of retrieved routers and press the ↵ button.
(See Connecting to a Wireless Network for more information.)
If a wireless router to connect to is not found, select the arrow on the right and press the **Skip** button.

6 **Clock**

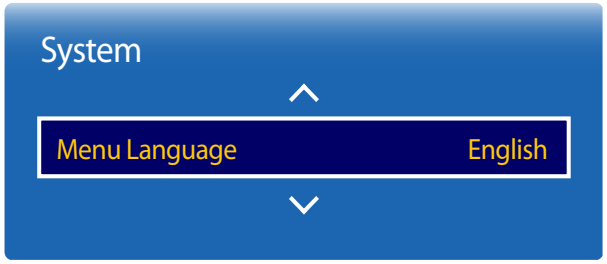
Set the current date and time, and then select **Next**.

7 **Setup Complete!**

To watch TV using the product now, select **OK**.

# Menu Language

MENU → System → Menu Language → ENTER




– The displayed image may differ depending on the model.

Set the menu language.

— A change to the language setting will only be applied to the onscreen menu display. It will not be applied to other functions on your PC.

# Multi Control

MENU → System → Multi Control → ENTER

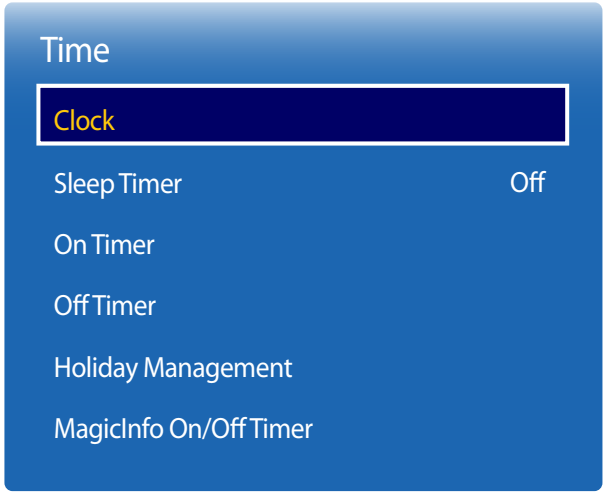
– The displayed image may differ depending on the model.

## Configuring settings for Multi Control

- **ID Setup**
  Assign an ID to a set. (Range: 0~99)
  Press ▲/▼ to select a number, and press .
- **ID Input**
  Enter the ID number of the product connected to the input cable for input signal reception.
  Enter the number you want using the number buttons on the remote control.
- **PC Connection**
  Select a method to connect to MDC to receive the MDC signal.
  – **RS232C cable**
    Communicates with the MDC via a RS232C cable.
  – **Wi-Fi**
    Communicate with MDC over Wi-Fi.

# Time

MENU → System → Time → ENTER




– The displayed image may differ depending on the model.

You can configure **Clock**. You can also set the product to automatically turn on or off at a specified time using the **Timer** function.

## Clock

### Clock Mode

Set the current time manually or automatically.

**Auto**: Have the product set the current time automatically using the time from a digital channel.

— You must have the cable or an antenna connected to the product to set the time automatically.

**Manual**: Set the current time manually.

### Clock Set

Set the clock to use the various various timer features of the product.

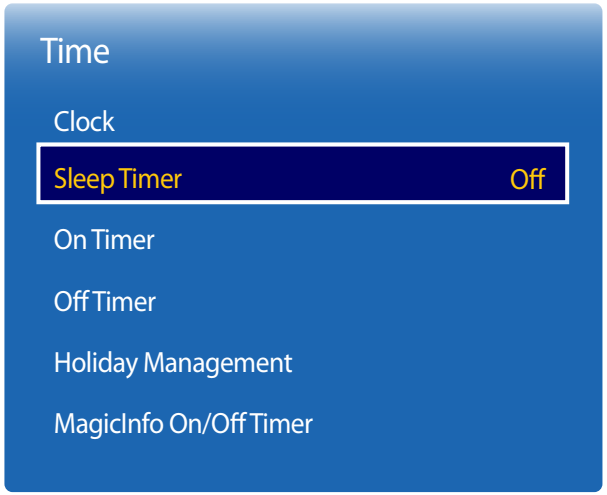
Set the **Date** and **Time**.

Select **Clock Set**. Select **Date** or **Time**, and then press ↵.

Use the number buttons to enter numbers or press the up and down arrow buttons. Use the left and right arrow buttons to move from one entry field to the next. Press ↵ when done.

— Available only when **Clock Mode** is set to **Manual**.

— You can set the **Date** and **Time** directly by pressing the number buttons on the remote control.




– The displayed image may differ depending on the model.

## Sleep Timer

Automatically shuts off the product after a preset period of time.

(**Off** / **30 min.** / **60 min.** / **90 min.** / **120 min.** / **150 min.** / **180 min.**)

— Use the up and down arrows to select a period of time, and then press ↵. To cancel **Sleep Timer**, select **Off**.

## On Timer

Set **On Timer** so that your product turns on automatically at a time and on a day of your choosing.

The power is turned on with the specified volume or input source.

**On Timer**: Set the on timer by making a selection from one of the seven options. Ensure you set the current time first.

(**On Timer1** ~ **On Timer7**)

— You must set the clock before you can use **On Timer**.

- **Setup**: Select **Off**, **Once**, **Everyday**, **Mon~Fri**, **Mon~Sat**, **Sat~Sun** or **Manual**. If you select **Manual**, you can choose the days you want **On Timer** to turn on your product.
  — The check mark indicates days you've selected.
- **Time**: Set the hour and minute. Use the number buttons or the up and down arrow keys to enter numbers. Use the left and right arrow buttons to change entry fields.
- **Volume**: Set the desired volume level. Use the left and right arrow buttons to change the volume level.
- **Source**: Select the input source of your choice.
- **Antenna** (when the **Source** is set to **TV**): Select **Air** or **Cable**.
- **Channel** (when the **Source** is set to **TV**): Select the desired channel.
- **Music** / **Photo** (when the **Source** is set to **USB**): Select a folder in the USB device containing music or photo files you want played when the product turns on automatically.
  — This function is available only when a USB device is connected.

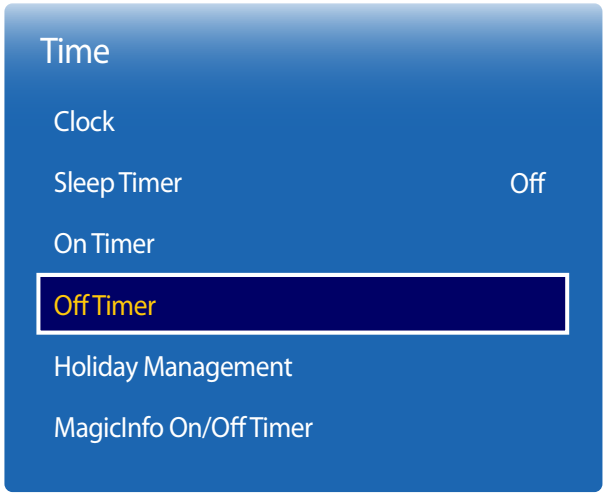
— If there is no music file on the USB device or you don't select a folder containing a music file, the Timer function does not operate correctly.

— If there is only one photo file in the USB, the Slide Show will not play.

— If a folder name is too long, the folder cannot be selected.

— Each USB you use is assigned its own folder. When using more than one of the same type of USB, make sure the folders assigned to each USB have different names.

— We recommend that you use a USB memory stick and a multi card reader when using **On Timer**. The **On Timer** function may not work with USB devices with a built-in battery, MP3 players, or PMPs made by some manufacturers because the product can take too long to recognize these devices.




– The displayed image may differ depending on the model.

## Off Timer

Set the off timer (**Off Timer**) by making a selection from one of the seven options. (**Off Timer1** ~ **Off Timer7**)

— You must set the clock before you can use **Off Timer**.

- **Setup**: Select **Off**, **Once**, **Everyday**, **Mon~Fri**, **Mon~Sat**, **Sat~Sun** or **Manual**. If you select **Manual**, you can choose the days you want **Off Timer** to turn off your product.

  — The check mark indicates days you've selected.

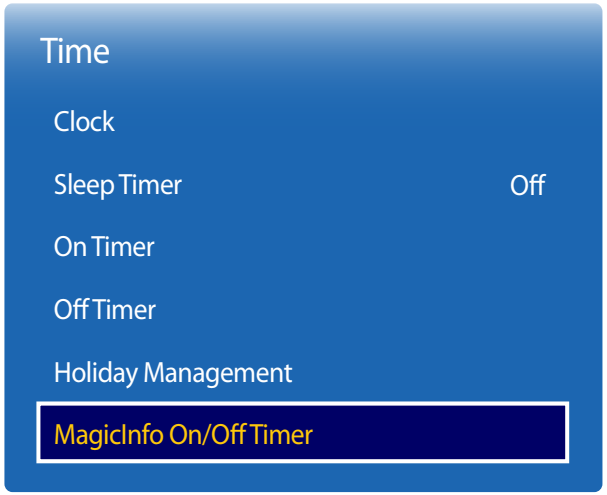
- **Time**: Set the hour and minute. Use the number buttons or the up and down arrow keys to enter numbers. Use the left and right arrow buttons to change entry fields.

## Holiday Management

**Timer** will be disabled during a period specified as a holiday.

- **Add**: Specify the period you want to add as a holiday.
  Select the start and end dates of the holiday you want to add using the ▲/▼ buttons, and click the **Save** button.
  The period will be added to the list of holidays.
  - **Start**: Set the start date of the holiday.
  - **End**: Set the end date of the holiday.
  - **Delete**: Delete all items from the list of holidays.
    Select **Delete**. The message "**Delete all holidays?**" will appear.
    Select **Yes**. All holidays will be deleted.

- **Apply**: Set the **On Timer** and **Off Timer** to not activate on public holidays.
  - Press ↵ to select the **On Timer** and **Off Timer** settings you do not want to activate.
  - The selected **On Timer** and **Off Timer** will not activate.




– The displayed image may differ depending on the model.

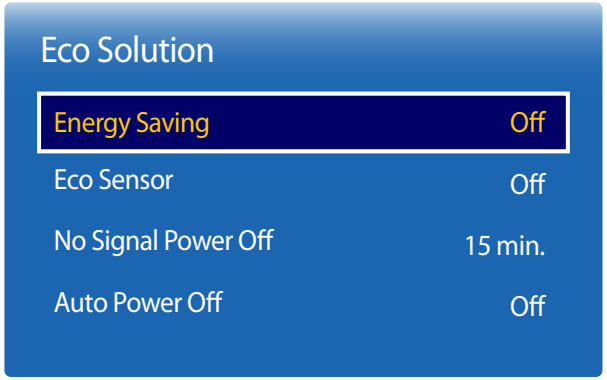
# MagicInfo On/Off Timer

View the on/off timer settings configured in the **MagicInfo Express Content Creator** tool.

- **On Timer**
  - **Setup**: View the days of the week specified in the **MagicInfo Express Content Creator** tool for the on timer to turn on the product.
  - **Time**: View the time specified in the **MagicInfo Express Content Creator** tool for the on timer to turn on the product.
  - **Source**: View the content input source specified in the **MagicInfo Express Content Creator** tool.
- **Off Timer**
  - **Setup**: View the days of the week specified in the **MagicInfo Express Content Creator** tool for the off timer to turn off the product.
  - **Time**: View the time specified in the **MagicInfo Express Content Creator** tool for the off timer to turn off the product.

# Eco Solution

MENU → System → Eco Solution → ENTER




– The displayed image may differ depending on the model.

## Energy Saving

Reduce the power consumption by adjusting the screen brightness.

Selecting **Picture Off** switches off the screen. The volume is not disabled.

To switch the screen on, press any button other than the volume button.

- **Off** / **Low** / **Medium** / **High**

## Eco Sensor

### Eco Sensor

To enhance your power savings, the picture settings will automatically adapt to the light in the room.

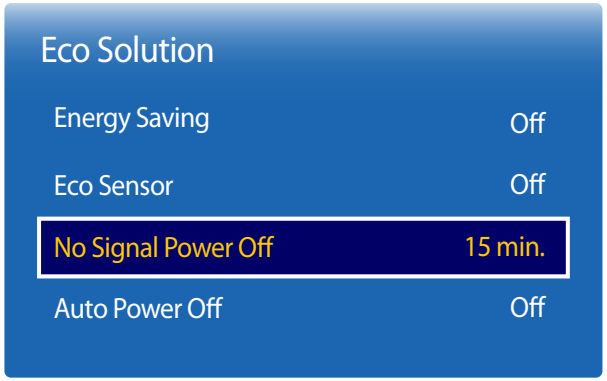
- **Off** / **On**

— Adjusting the **Backlight** setting under **Picture** while **Eco Sensor** is on will disable the **Off**.

#### Min. Backlight

When **Eco Sensor** is **On**, you can manually adjust the minimum screen brightness. **Min. Backlight** is the darkest backlight mode. Make sure the **Min. Backlight** setting is lower than the **Backlight** setting.

— If **Eco Sensor** is **On**, the display brightness may change (become slightly darker or brighter) depending on the surrounding light intensity.




– The displayed image may differ depending on the model.

## No Signal Power Off

Save power by turning the device off when no signal is received from any source.

- **Off** / **15 min.** / **30 min.** / **60 min.**

— Disabled when an attached PC is in power saving mode.

— The product will automatically power off at a specified time. The time can be changed as required.

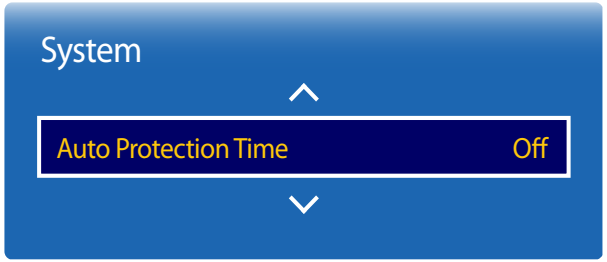
## Auto Power Off

The product will automatically turn off if you don't press a button on the remote or touch a button on product front panel within 4 hours to prevent overheating.

- **Off** / **On**

# Auto Protection Time

MENU → System → Auto Protection Time → ENTER




– The displayed image may differ depending on the model.

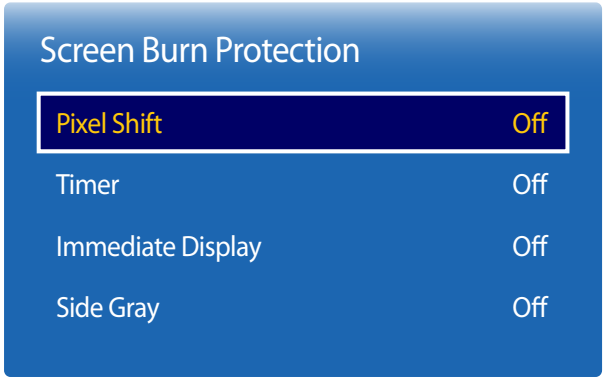
If the screen displays a still image for a certain period of time you define, the product activates the screen saver to prevent the formation of burnt in ghost images on the screen.

— Displaying a still image for longer than four hours can cause image retention.

- **Off** / **2 hours** / **4 hours** / **8 hours** / **10 hours**

# Screen Burn Protection

MENU → System → Screen Burn Protection → ENTER




– The displayed image may differ depending on the model.

To reduce the possibility of screen burn, this unit is equipped with **Pixel Shift** screen burn prevention technology.

**Pixel Shift** moves the picture slightly on the screen.

The **Pixel Shift Time** setting allows you to program the time between movements of the picture in minutes.

## Pixel Shift

Minimize image retention by finely moving pixels horizontally or vertically.

- **Pixel Shift** (**Off** / **On**)
  - **Horizontal**: Sets how many pixels the screen moves horizontally.
  - **Vertical**: Sets how many pixels the screen moves vertically.
  - **Time**: Set the time interval for performing the horizontal or vertical movement, respectively.

— **Horizontal**, **Vertical** and **Time** are enabled only when **Pixel Shift** is set to **On**.

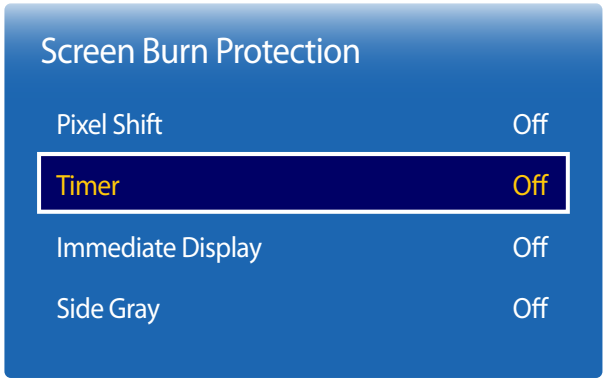
### Available Pixel Shift Settings and Optimum Settings.

| | Available Settings | Optimum Settings |
|---|---|---|
| **Horizontal** (pixels) | **0~4** | **4** |
| **Vertical** (pixels) | **0~4** | **4** |
| **Time** (minute) | **1 min. ~ 4 min.** | **4 min.** |

— The **Pixel Shift** value may differ depending on the product size and mode.

— Displaying a still image or a **4:3** output for an extended period of time may cause image retention. This is not a defect in the product.

— This function is not available in the **Screen Fit** mode.




– The displayed image may differ depending on the model.

# Timer

You can set the timer for **Screen Burn Protection**.

The **Timer** feature stops automatically after a specified period of time.

## Timer

- **Off**
- **Repeat**: Display the image retention-preventive pattern set in **Mode** at specified time intervals(Period).
- **Interval**: Display the image retention-preventive pattern set in **Mode** for a specified period of time (from **Start Time** to **End Time**).

  — The option is enabled only when **Clock Set** is configured.

  — **Mode**, **Period**, **Time**, **Start Time** and **End Time** are enabled only when **Timer** is set to **Repeat** or **Interval**.

### Mode

Select a screen protective pattern to display.

- **Pixel**: Pixels on the screen alternate black continuously.
- **Rolling Bar**: A vertical bar moves left to right.
- **Fading Screen**: The entire screen becomes brighter, then darker.

  — The **Rolling Bar** and **Fading Screen** patterns appear only once regardless of the specified repeat period or time.

### Period

Specify the time interval to activate the **Screen Burn Protection** function.

— The option is enabled when **Repeat** is selected for **Timer**.

### Time

Specify the duration to keep the **Screen Burn Protection** function on.

— The option is enabled when **Pixel** is selected for **Mode**.

### Start Time

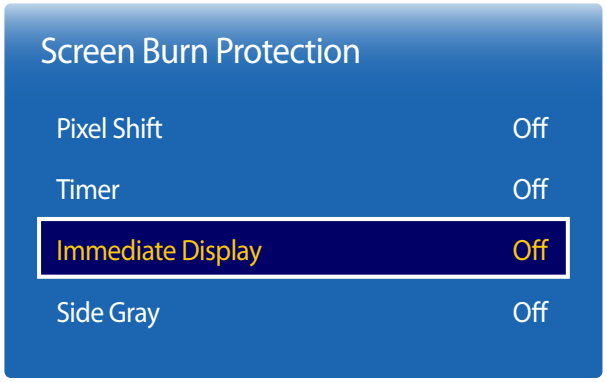
Set the start time to activate the screen protection function.

— The option is enabled when **Interval** is selected for **Timer**.

### End Time

Set the end time to deactivate the screen protection function.

— The option is enabled when **Interval** is selected for **Timer**.




– The displayed image may differ depending on the model.

## Immediate Display

Select the screen saver you want to display immediately.

- **Off** / **Pixel** / **Rolling Bar** / **Fading Screen**

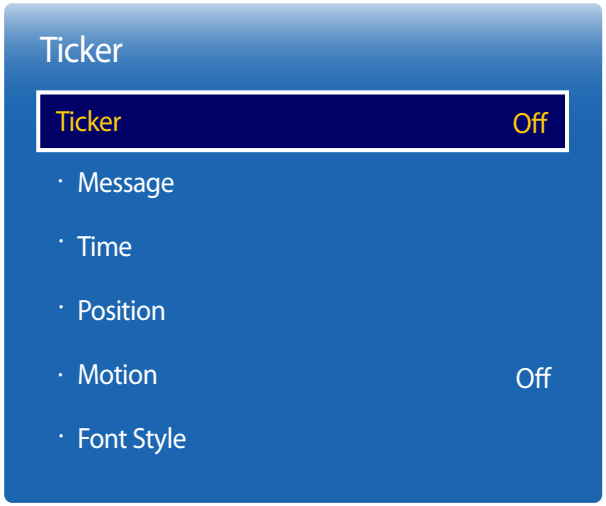
## Side Gray

When the screen is set to 4:3 aspect ratio, adjust the brightness of white margins on sides to protect the screen.

- **Off** / **Light** / **Dark**

# Ticker

MENU → System → Ticker → ENTER




– The displayed image may differ depending on the model.

– The **Ticker** function is only available when **Menu Language** is set to **English**.

## Ticker

Input text while a video or image is displayed and display the text on the screen.

- **Off** / **On**

  — **Message**, **Time**, **Position**, **Motion**, and **Font Options** are enabled only when **Ticker** is set to **On**.

### Message

Enter a message to display on the screen.

### Time

Set the **Start Time** and **End Time** to display a **Message**.

- **Start Time**
- **End Time**

### Position

Select an orientation to display a **Message** from **Horizontal** and **Vertical**.

- **Horizontal** (**Left** / **Center** / **Right**)
- **Vertical** (**Up** / **Middle** / **Down**)

### Motion

Specify the **Direction** and **Speed** to display a **Message**.

- **Motion** (**Off** / **On**)
- **Direction** (**Left** / **Right** / **Up** / **Down**)
- **Speed** (**Slow** / **Normal** / **Fast**)

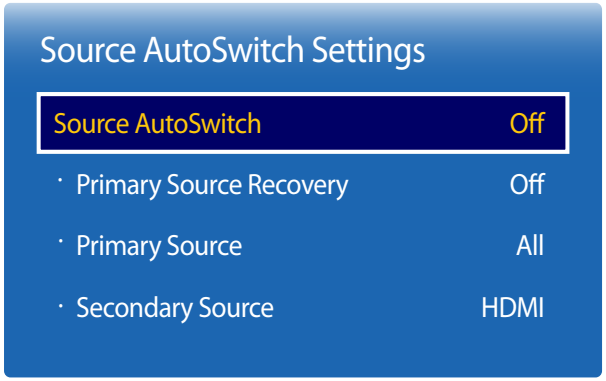
  — **Direction** and **Speed** are enabled only when **Motion** is set to **On**.

### Font Style

Configure the message font options.

# Source AutoSwitch Settings

MENU → System → Source AutoSwitch Settings → ENTER




– The displayed image may differ depending on the model.

Turning on the display with **Source AutoSwitch On**, and the previous video source selection is not active, the display will automatically search the different video input sources for active video.

## Source AutoSwitch

When the **Source AutoSwitch** is **On**, the display video source will automatically be searched for active video.

The **Primary Source** selection will be activated, if the current video source is not recognized.

**Secondary Source** selection will become active, if no primary video source is available.

If both the primary and secondary input sources are not recognized, the display will perform two searches for an active source, each search checking the primary and then secondary source. If both searches fail, the display will return to the first video source and display a message indicating that there is no signal.

When the **Primary Source** selection is set to **All**, the display will search all the video source inputs twice in sequence looking for an active video source, returning back to the first video source in the sequence if no video is found.

### Primary Source Recovery

Select whether to restore the selected primary input source when a primary input source is connected.

— The **Primary Source Recovery** function is disabled if **Primary Source** is set to **All**.

### Primary Source

Specify **Primary Source** for the automatic input source.

### Secondary Source

Specify **Secondary Source** for the automatic input source.

# General

MENU → System → General → ENTER

– The displayed image may differ depending on the model.

## Game Mode

When connecting to a game console such as PlayStation™ or Xbox™, you can enjoy a more realistic gaming experience by selecting game mode.

- **Off** / **On**

— Precautions and limitations for **Game Mode**
To disconnect the game console and connect another external device, set **Game Mode** to **Off** in the setup menu.

— **Game Mode** is not available when the input source is set to **TV**. After connecting the game console, set **Game Mode** to **On**. Unfortunately, you may notice reduced picture quality.

— If **Game Mode** is **On**
**Picture Mode** is set to **Standard** and **Sound Mode** is set to **Movie**.

## Auto Power

Enabling this option will automatically power on the product if the power cable is connected.

- **Off** / **On**

## Safety Lock

It sets safe lock function.

- **Off** / **On**

All the menus and buttons of the product and remote control, except for the **LOCK** button on the remote control, will be locked by the **Safety Lock** function.

To unlock the menus and buttons, press the **LOCK** button and then enter the password (default password: 0 - 0 - 0 - 0).

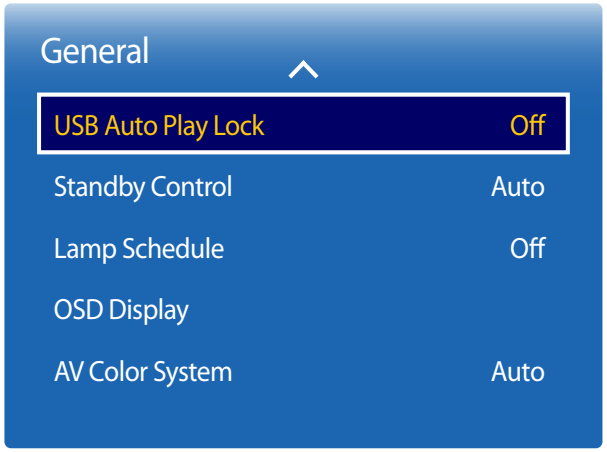
## Button Lock

It sets safe lock function.

- **Off** / **On**

This menu can be used to lock the buttons on the product.

Only the remote control can control the product if **Button Lock** is set to **On**.




– The displayed image may differ depending on the model.

## USB Auto Play Lock

Select whether to automatically play **MagicInfo** content saved on a connected USB device.

- **On**
  Do not play **MagicInfo** content saved on the USB device automatically.
  — Connecting a USB device containing **MagicInfo** content displays "**USB Auto Play Lock : On**" for five seconds.
- **Off**
  Play **MagicInfo** content saved on the USB device automatically.

## Standby Control

You can set the screen standby mode to be applied when an input signal is received.

- **Auto**
  Power-saving mode will activate if no input signals are detected even though a source device is connected to the display.
  The message **No Signal** will appear if no source device is connected.
- **On**
  Power-saving mode will activate if no input signals are detected.
- **Off**
  The message **No Signal** will appear if no input signals are detected.
  — The **Standby Control** option is only enabled when **Source** is set to **HDMI**.
  — If **No Signal** is displayed although a source device is connected, check the cable connection.

## Lamp Schedule

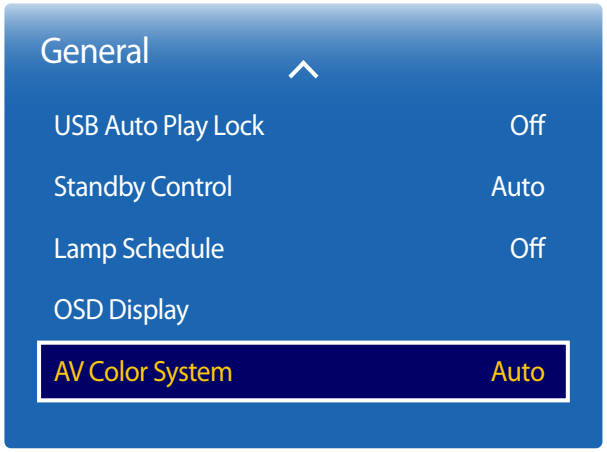
Adjusts the luminance to a user-specified value at a specified time.

- **Off** / **On**

## OSD Display

Displays or hides a menu item on the screen.

- **Source OSD**: **Off** / **On**
- **No Signal OSD**: **Off** / **On**




– The displayed image may differ depending on the model.

## AV Color System

Change the **Color System** according to the AV signal.

- **Auto** / **PAL-M** / **PAL-N** / **NTSC**

# Change PIN

**MENU** → **System** → **Change PIN** → **ENTER**

– The displayed image may differ depending on the model.

The **Change PIN** screen will appear.

Choose any 4 digits for your PIN and enter it in **Enter New PIN**. Reenter the same 4 digits in **Confirm New PIN**.

When the Confirm screen disappears, press the **Close** button. The product has memorized your new PIN.

— Default password: 0 - 0 - 0 - 0

# Clone Product

MENU → System → Clone Product → ENTER

– The displayed image may differ depending on the model.

Export the product settings to a USB device or load the settings via a USB device.

This option is useful when assigning the same settings to several products.

- **Clone to USB**: Copy the product settings to a USB device.
- **Clone From USB**: Assign the settings saved in a USB device to the product.
  – After configuration is complete, the product is rebooted automatically.
  — The option may not work properly if the USB device contains a file other than a settings file.
  — Confirm that the USB device functions properly before running the option.
  — The option is available for products with the same **Model Code** and **Software Version**.
  Go to **Support** → **Contact Samsung** and find the product **Model Code** and **Software Version**.

# Reset System

MENU → System → Reset System → ENTER

– The displayed image may differ depending on the model.

This option returns the current settings under system to the default factory settings.

# Reset All

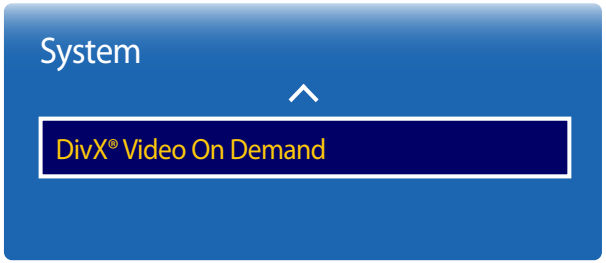
MENU → System → Reset All → ENTER

– The displayed image may differ depending on the model.

This option returns all the current settings for a display to the default factory settings.

# DivX® Video On Demand

MENU → System → DivX® Video On Demand → ENTER




– The displayed image may differ depending on the model.

Shows the registration code authorized for the product.

If you connect to the DivX® web site and register using that code, you can download the VOD registration file.

For more information about DivX® VOD, visit "http://vod.divx.com".

# Chapter 13
# Support

## Software Update

**Current Version**: This is the software version already installed in the product.

**MENU** ▥ → **Support** → **Software Update** → **ENTER** ↵

The **Software Update** menu lets you upgrade your product software to the latest version.

— Be careful not to turn off the power until the upgrade is complete. The product will turn off and on automatically after completing the software upgrade.

— When you upgrade software, all video and audio settings you have made will return to their default settings. We advise you to write down your settings so that you can easily reset them after the upgrade.

### Update now

Update the software to the latest version.

— Performing a software update via USB will display the corresponding update window after a maximum of two minutes.

## Contact Samsung

**MENU** ▥ → **Support** → **Contact Samsung** → **ENTER** ↵

View this information when your product does not work properly or when you want to upgrade the software.

You can find information regarding our call centers and how to download products and software.

— **Contact Samsung** and find the product **Model Code** and **Software Version**.

# Chapter 14
# Troubleshooting Guide

## Requirements Before Contacting Samsung Customer Service Center

Before calling Samsung Customer Service Center, test your product as follows. If the problem persists, contact Samsung Customer Service Center.

### Testing the Product

Check if your product is operating normally by using the product test function.

If the screen remains blank while the power LED blinks even when the product is correctly connected to a PC, perform product testing.

1 Power off both the PC and product.

2 Disconnect all the cables from the product.

If the screen remains blank, check the PC system, video controller and cable.

3 Power on the product.

4 If **No Signal** is displayed, the product is operating normally.

### Checking the Resolution and Frequency

**Not Optimum Mode** will briefly be displayed if a mode that exceeds a supported resolution is selected (refer to Supported Resolutions).

# Check the followings.

## Installation issue (PC mode)

| | |
|---|---|
| **The screen keeps switching on and off.** | Check the cable connection between the product and PC, and ensure the connection is secure. |
| **Blank spaces are found on all four sides of the screen when an HDMI or HDMI-DVI cable is connected to the product and PC.** | The blank spaces found on the screen have nothing to do with the product.<br>Blank spaces on the screen are caused by the PC or graphics card. To resolve the problem, adjust the screen size in the HDMI or DVI settings for the graphics card. |
| | If the graphics card settings menu does not have an option to adjust the screen size, update the graphics card driver to the latest version.<br>(Please contact the graphics card or computer manufacturer for further details about how to adjust the screen settings.) |

## Screen issue

| | |
|---|---|
| **The power LED is off. The screen will not switch on.** | Make sure that the power cord is connected. |
| **No Cable Connected is displayed on the screen (refer to "Connecting to a PC").** | Check that the product is connected correctly with a cable. |
| | Check that the device connected to the product is powered on. |
| **Not Optimum Mode is displayed.** | This message is displayed when a signal from the graphics card exceeds the product's maximum resolution and frequency. |
| | Refer to the Standard Signal Mode Table and set the maximum resolution and frequency according to the product specifications. |
| **The images on the screen look distorted.** | Check the cable connection to the product. |
| **The screen is not clear. The screen is blurry.** | Remove any accessories (video extension cable, etc) and try again. |
| | Set the resolution and frequency to the recommended level. |

## Screen issue

| | |
|---|---|
| **The screen appears unstable and shaky.**<br>**There are shadows or ghost images left on the screen.** | Check that the resolution and frequency of the PC and graphics card are set within a range compatible with the product. Then, change the screen settings if required by referring to the Additional Information on the product menu and the Standard Signal Mode Table. |
| **The screen is too bright. The screen is too dark.** | Adjust **Brightness** and **Contrast**. |
| **Screen color is inconsistent.** | Go to **Picture** and adjust the **Color Space** settings. |
| **White does not really look white.** | Go to **Picture** and adjust the **White Balance** settings. |
| **There is no image on the screen and the power LED blinks every 0.5 to 1 second.** | The product is in power-saving mode.<br>Press any key on the keyboard or move the mouse to return to the previous screen. |
| **The product will turn off automatically.** | Go to **System** and make sure **Sleep Timer** is set to **Off**.<br>If a PC is connected to the product, check the power status of the PC.<br>Make sure the power cable is connected properly to the product and power outlet.<br>If the signal from a connected device is not detected, the product automatically turns off after 10 to 15 minutes. |
| **Picture quality of the product is different from the dealer shop where it was purchased.** | Use an HDMI cable to obtain high-definition (HD) picture quality. |
| **The screen display does not look normal.** | Encoded video content may cause the display to appear corrupted in scenes featuring fast moving objects such as in a sports event or action video.<br>Low signal level or low picture quality may cause the display to appear corrupted. This does not mean the product is defective.<br>A cell phone within a distance of one-meter radius may cause static on analog and digital products. |

## Screen issue

| | |
|---|---|
| **The brightness and color do not look normal.** | Go to **Picture** and adjust the screen settings such as **Picture Mode**, **Color**, **Brightness** and **Sharpness**. |
| | Go to **System** and adjust the **Eco Solution** settings. |
| | Reset the screen settings to the default settings. |
| **Broken lines are displayed on the edges of the screen.** | If **Picture Size** is set to **Screen Fit**, change the setting to **16:9**. |
| **Lines (red, green or blue) are displayed on the screen.** | These lines are displayed when there is a defect in DATA SOURCE DRIVER IC on the product. Contact a Samsung Service Center to resolve the issue. |
| **The display looks unstable and then freezes.** | The screen may freeze when a resolution other than the recommended resolution is used or if the signal is not stable. To resolve the issue, change the PC resolution to the recommended resolution. |
| **The screen cannot be displayed in full screen.** | A scaled SD (4:3) content file can cause black bars on both sides of an HD channel screen. |
| | A video with an aspect ratio different from the product can cause black bars at the top and bottom of the screen. |
| | Change the screen size setting to full screen on the product or source device. |

## Sound issue

| | |
|---|---|
| **There is no sound.** | Check the connection of the audio cable or adjust the volume. |
| | Check the volume. |
| **The volume is too low.** | Adjust the volume. |
| | If the volume is still low after turning it up to the maximum level, adjust the volume on your PC sound card or software program. |

## Sound issue

| | |
|---|---|
| **Video is available but there is no sound.** | If an HDMI cable is connected, check the audio output settings on the PC. |
| | If a source device is used<br>• Make sure the audio cable is properly connected to the audio input port on the product.<br>• Check the audio output settings for the source device.<br>(For example, if an HDMI cable is connected to the product, the audio setting for the cable box may need to be changed to HDMI.) |
| | Reconnect the power cable to the device and then reboot the device. |
| **There is static coming from the speakers.** | Check the cable connection. Make sure a video cable is not connected to an audio input port. |
| | Check the signal strength after connecting a cable. |
| | Low signal level can cause corrupted sound. |
| **There is audible sound when the volume is muted.** | Audio settings for main speakers are separate from the internal speakers on the product.<br>Changing or muting the volume on the product does not affect an external amplifier(decoder). |
| **Sound from the product does not change after Sound Mode is changed.** | Audio settings for main speakers are separate from the internal speakers on the product.<br>Audio settings on a source device do not affect the internal speaker settings on the product. |

## Remote control issue

| | |
|---|---|
| **The remote control does not work.** | Make sure that the batteries are correctly in place (+/-). |
| | Check if the batteries are flat. |
| | Check for power failure. |
| | Make sure that the power cord is connected. |
| | Check for any special lighting or neon signs switched on in the vicinity. |

## Source device issue

| | |
|---|---|
| **A beeping sound is heard when my PC is booting.** | If a beeping sound is heard when your PC is booting, have your PC serviced. |

## Other issue

| | |
|---|---|
| **Caption is grayed out and not selectable.** | If the selected input source is not **TV**, **Caption** cannot be selected from the **Channel** menu. |
| **The product smells like plastic.** | The plastic smell is normal and disappears over time. |
| **The product appears tilted.** | Remove and then attach the stand again to the product. |
| **Audio or video cuts out intermittently.** | Check the cable connection and connect it again if required. |
| | Using a very hard or thick cable may corrupt audio and video files.<br>Make sure cables are flexible enough to ensure durability. When mounting the product onto a wall, it is recommended to use right-angle cables. |
| **Small particles are found on the edges of the product.** | The particles are part of the product design. The product is not defective. |
| **The PIP menu is not available.** | The menu is enabled or disabled depending on the **Source** mode. |

## Other issue

**When I try to change the PC resolution, a message The defined resolution is not currently supported. appears.**

The message **The defined resolution is not currently supported.** appears if the input source resolution exceeds the maximum resolution of the display.

To resolve the issue, change the PC resolution to a resolution supported on the display.

**There is no sound from the speakers in HDMI mode when a DVI-HDMI cable is connected.**

DVI cables do not transmit sound data.

Make sure to connect the audio cable to the correct input jack to enable audio.

**HDMI Black Level is not functioning properly on an HDMI device with YCbCr output.**

This function is available only when a source device, such as a DVD player and STB, is connected to the product via an HDMI (RGB signal) cable.

**There is no sound in HDMI mode.**

Displayed picture colors may not look normal. Video or sound may not be available. This can occur if a source device that only supports an older version of the HDMI standard is connected to the product. If these issues occur, connect an audio cable along with the HDMI cable.

Some PC graphics cards may not automatically recognize HDMI signals that do not include sound. In this case, manually select a sound input.

| | Sound input | Screen mode |
|---|---|---|
| PC | Auto | PC settings |

# Q & A

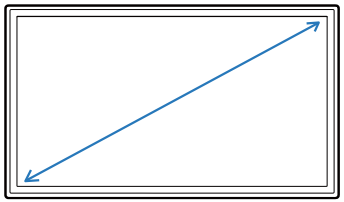
Refer to the user manual for your PC or graphics card for further instructions on adjustment.

| Question | Answer |
| --- | --- |
| **How can I change the frequency?** | Set the frequency on your graphics card.<br>• Windows XP: Go to **Control Panel** → **Appearance and Themes** → **Display** → **Settings** → **Advanced** → **Monitor** and adjust the frequency in **Monitor Settings**.<br>• Windows ME/2000: Go to **Control Panel** → **Display** → **Settings** → **Advanced** → **Monitor** and adjust the frequency in **Monitor Settings**.<br>• Windows Vista: Go to **Control Panel** → **Appearance and Personalization** → **Personalize** → **Display Settings** → **Advanced Settings** → **Monitor** and adjust the frequency in **Monitor Settings**.<br>• Windows 7: Go to **Control Panel** → **Appearance and Personalization** → **Display** → **Adjust resolution** → **Advanced Settings** → **Monitor** and adjust the frequency in **Monitor Settings**.<br>• Windows 8: Go to **Settings** → **Control Panel** → **Appearance and Personalization** → **Display** → **Adjust resolution** → **Advanced Settings** → **Monitor** and adjust the frequency in **Monitor Settings**. |
| **How can I change the resolution?** | • Windows XP: Go to **Control Panel** → **Appearance and Themes** → **Display** → **Settings** and adjust the resolution.<br>• Windows ME/2000: Go to **Control Panel** → **Display** → **Settings** and adjust the resolution.<br>• Windows Vista: Go to **Control Panel** → **Appearance and Personalization** → **Personalize** → **Display Settings** and adjust the resolution.<br>• Windows 7: Go to **Control Panel** → **Appearance and Personalization** → **Display** → **Adjust Resolution** and adjust the resolution.<br>• Windows 8: Go to **Settings** → **Control Panel** → **Appearance and Personalization** → **Display** → **Adjust Resolution** and adjust the resolution. |

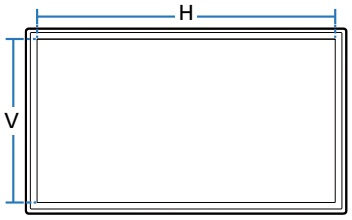
| Question | Answer |
| --- | --- |
| **How do I set powersaving mode?** | • Windows XP: Set power-saving mode in **Control Panel → Appearance and Themes → Display → Screen Saver Settings** or BIOS SETUP on the PC.<br>• Windows ME/2000: Set power-saving mode in **Control Panel → Display → Screen Saver Settings** or BIOS SETUP on the PC.<br>• Windows Vista: Set power-saving mode in **Control Panel → Appearance and Personalization → Personalize → Screen Saver Settings** or BIOS SETUP on the PC.<br>• Windows 7: Set power-saving mode in **Control Panel → Appearance and Personalization → Personalize → Screen Saver Settings** or BIOS SETUP on the PC.<br>• Windows 8: Set power-saving mode in **Settings → Control Panel → Appearance and Personalization → Personalize → Screen Saver Settings** or BIOS SETUP on the PC. |

# Chapter 15
# Specifications

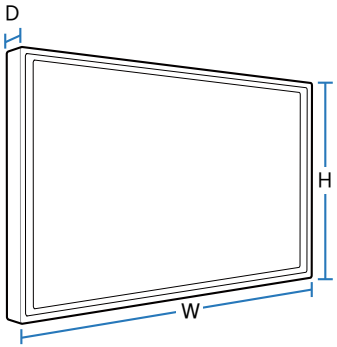
- Size



- Display area




- Dimensions (W x H x D)




## General

| Model Name | | EB40D | EB48D |
|---|---|---|---|
| **Panel** | **Size** | 40 CLASS (40.0 inches / 101 cm) | 48 CLASS (47.6 inches / 120 cm) |
| | **Display area** | 88.82 cm (H) x 50.07 cm (V) | 105.62 cm (H) x 59.51 cm (V) |
| **Dimensions (W x H x D) / Weight** | **Without Stand** | 91.42 x 54.79 x 9.09 cm / 7.0 kg | 108.32 x 63.78 x 9.09 cm / 9.1 kg |
| | **With Stand** | 91.42 x 58.64 x 19.64 cm / 7.6 kg | 108.32 x 67.70 x 20.39 cm / 9.9 kg |
| **Audio Output** | | 10 W + 10 W | |
| **Power Supply** | | AC 100 to 240 VAC (+/- 10%), 60 / 50Hz ± 3Hz<br>Refer to the label at the back of the product as the standard voltage can vary in different countries. | |
| **Environmental considerations** | **Operating** | Temperature : 32 °F - 104 °F (0 °C - 40 °C)<br>Humidity : 10 % - 80 %, non-condensing | |
| | **Storage** | Temperature : -4 °F - 113 °F (-20 °C - 45 °C)<br>Humidity : 5 % - 95 %, non-condensing | |

— Plug-and-Play

This monitor can be installed and used with any Plug-and-Play compatible systems. Two-way data exchange between the monitor and PC system optimizes the monitor settings.

Monitor installation takes place automatically. However, you can customize the installation settings if desired.

— Due to the nature of the manufacturing of this product, approximately 1 pixel per million (1ppm) may appear brighter or darker on the panel. This does not affect product performance.

— This device is a Class A digital apparatus.

# Power Consumption

| | | Normal Operation | Stand-by |
|---|---|---|---|
| | | Rating | |
| **Power Consumption** | **EB40D** | 70 W | Lower than 0.5 W |
| | **EB48D** | 84 W | |

— The displayed power consumption level can vary in different operating conditions or when settings are changed.

— SOG(Sync On Green) is not supported.

— To reduce the power consumption to 0, disconnect the power cord. Disconnect the power cable if you will not be using the product for an extended period of time (during vacation, etc.)

# Preset Timing Modes

— This product can be set to only one resolution for each screen size to obtain the optimum picture quality due to the nature of the panel. Using a resolution other than the specified resolution may degrade the picture quality. To avoid this, it is recommended that you select the optimum resolution specified for your product.

— Check the frequency when you exchange a CDT product (connected to a PC) for an LCD product. If the LCD product does not support 85Hz, change the vertical frequency to 60Hz using the CDT product before you exchange it with the LCD product.

| Model Name | | EB40D | EB48D |
|---|---|---|---|
| Synchronization | Horizontal Frequency | 30 - 61 kHz | |
| | Vertical Frequency | 60 - 75 Hz | |
| Resolution | Optimum resolution | 1366 x 768 @ 60 Hz | |
| | Maximum resolution | 1366 x 768 @ 60 Hz | |

- Horizontal Frequency
  The time required to scan a single line from the left to the right side of the screen is called a horizontal cycle. The reciprocal number of a horizontal cycle is called horizontal frequency. Horizontal frequency is measured in kHz.
- Vertical Frequency
  The product displays a single image multiple times per second (like a fluorescent light) to display what the viewer sees. The rate of a single image being displayed repeatedly per second is called vertical frequency or refresh rate. Vertical frequency is measured in Hz.

The screen will automatically be adjusted if a signal that belongs to the following standard signal modes is transmitted from your PC. If the signal transmitted from the PC does not belong to the standard signal modes, the screen may be blank with the power LED on. In such a case, change the settings according to the following table by referring to the graphics card user manual.

| Resolution | Horizontal Frequency (kHz) | Vertical Frequency (Hz) | Pixel Clock (MHz) | Sync Polarity (H/V) |
|---|---|---|---|---|
| VESA, 640 x 480 | 31.469 | 59.940 | 25.175 | -/- |
| IBM, 720 x 400 | 31.469 | 70.087 | 28.322 | -/+ |
| MAC, 640 x 480 | 35.000 | 66.667 | 30.240 | -/- |
| VESA, 640 x 480 | 37.861 | 72.809 | 31.500 | -/- |
| VESA, 640 x 480 | 37.500 | 75.000 | 31.500 | -/- |
| VESA, 800 x 600 | 37.879 | 60.317 | 40.000 | +/+ |

| Resolution | Horizontal Frequency (kHz) | Vertical Frequency (Hz) | Pixel Clock (MHz) | Sync Polarity (H/V) |
|---|---|---|---|---|
| VESA, 800 x 600 | 48.077 | 72.188 | 50.000 | +/+ |
| VESA, 800 x 600 | 46.875 | 75.000 | 49.500 | +/+ |
| VESA, 1024 x 768 | 48.363 | 60.004 | 65.000 | -/- |
| VESA, 1024 x 768 | 56.476 | 70.069 | 75.000 | -/- |
| VESA, 1024 x 768 | 60.023 | 75.029 | 78.750 | +/+ |
| VESA, 1280 x 720 | 45.000 | 60.000 | 74.250 | +/+ |
| VESA, 1366 x 768 | 47.712 | 59.790 | 85.500 | +/+ |

# Chapter 16
# Appendix

## Responsibility for the Pay Service (Cost to Customers)

— When the service is requested, in spite of in warranty, we may charge you for a visit from a service technician in the following cases.

### Not a product defect

Cleaning of the product, Adjustment, Explanation, Re-installation and etc.

- If a service technician gives instructions on how to use product or simply adjusts options without disassembling product.
- If a defect is caused by external environmental factors (Internet, Antenna, Wired Signal, etc.)
- If a product is reinstalled or devices are connected additionally after installing the purchased product for the first time.
- If a product is reinstalled to move to a different spot or to move to a different house.
- If customer requests instructions on how to use because of another company's product.
- If customer requests instructions on how to use the network or another company's program.
- If customer requests software installation and setup for the product.
- If a service technician removes/cleans dusts or foreign materials inside of the product.
- If customer requests an installation additionally after purchasing a product through home-shopping or online.

### A Product damage caused by customer's fault

Product damage caused by customer's mishandling or wrong repair

If a product damage is caused by;

- External impact or drop.
- Use of supplies or separatly sold product unspecified by Samsung.
- Repair from a person besides an engineer of outsourcing service company or partner of Samsung Electronics Co., Ltd.
- Remodeling or repairing the product by customer.
- Using it with incorrect voltage or non-authorised electrical connections.
- Not following the "cautions" in User Manual.

### Others

- If product fails by natural disaster. (lightning, fire, earthquake, flood damage, etc)
- If consumable components are all used up. (Battery, Toner, Fluorescent lights, Head, Vibrator, Lamp, Filter, Ribbon, etc.)

— If customer requests a service in case the product has no defect, service fee may be charged. So please read User Manual first.

# Optimum Picture Quality and Afterimage Burn-in Prevention

## Optimum Picture Quality

Due to the nature of the manufacturing of this product, approximately 1 pixel per million (1ppm) may be brighter or darker on the panel.
This does not affect product performance.

- The number of sub-pixels by panel type: 6,220,800

- Leaving the screen fixed on a stationary image for an extended period of time may cause afterimage burn-in or defective pixels.
  - Activate power-saving mode or a dynamic screen saver if you will not be using the product for an extended period of time.

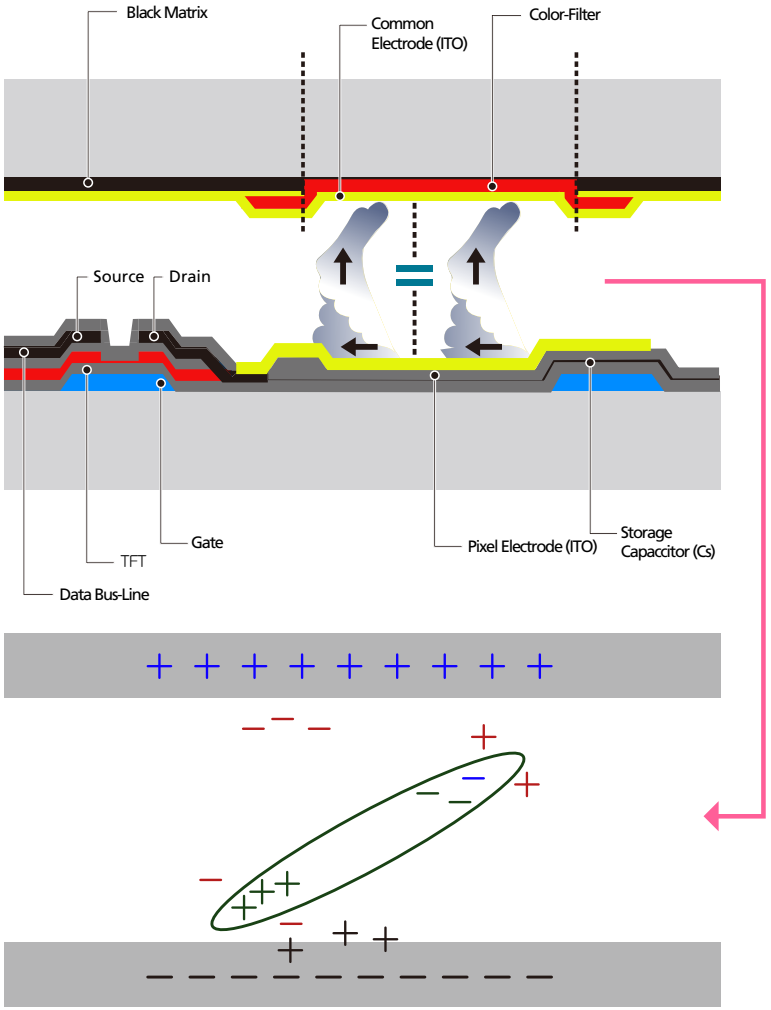
## Prevention of Afterimage Burn-in

### What is afterimage burn-in?

Afterimage burn-in should not occur when the LCD panel is operating normally. Normal operation refers to a continuously changing video pattern. If the LCD panel displays a fixed pattern for an extended period of time (more than 12 hours), a slight voltage difference may occur between the electrodes in pixels that control the liquid crystals.

Such a voltage difference between electrodes increases with time and makes the liquid crystals thinner. When this occurs, a previous image can remain on the screen when the pattern changes. To prevent this, the accumulated voltage difference should be reduced.

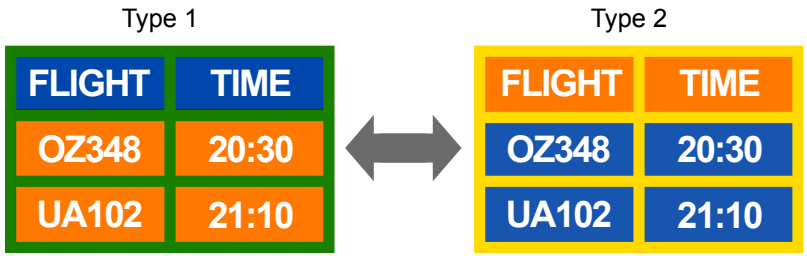
— Afterimage burn-in should not occur when an LCD panel is operating in proper conditions.



## Preventing afterimage burn-in

— The best way to protect the product from afterimage burn-in is switching the power off or setting the PC or system to run a screen saver when not in use. Also, Warranty service may be limited depending on instruction guide.

- Powering Off, Screen Saver and Power Saving Mode
  - Go to Display Properties > Power Supply on your PC and set the product to power off as required.
  - Using a screen saver is recommended.
    It is best to use a single-color or moving-image screen saver.
- Regular color Change
  - Use 2 colors
    Switch between 2 colors every 30 minutes as shown above.



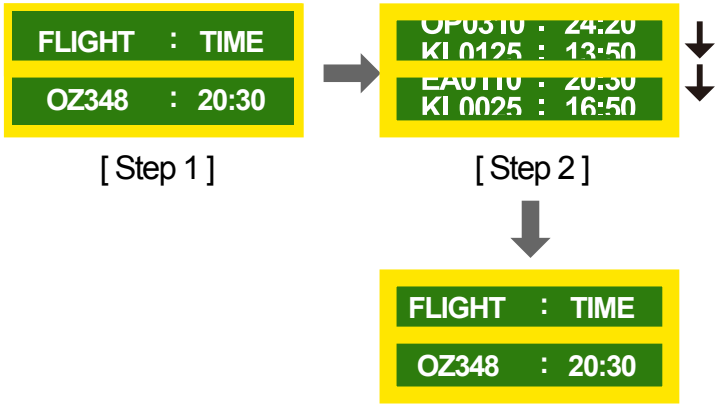

- Avoid combinations of a text color and background color of contrasting brightness.
  (Brightness: refers to the lightness or darkness of a color which varies depending on the amount of light emitted.)

— Avoid using grey as it may contribute to afterimage burn-in.

— Avoid using colors of contrasting brightness (black and white; grey).

- Regular Text color Change
  - Use bright colors of similar brightness.
    Interval: Change text color and background color every 30 minutes

  - Move and change text every 30 minutes as shown below.




  - Regularly display a moving image along with a logo.
    Interval: Display a moving image along with a logo for 60 seconds after using for 4 hours.

# License

Manufactured under license from Dolby Laboratories.

Dolby and the double-D symbol are trademarks of Dolby Laboratories.

Manufactured under license under U.S. Patent Nos: 5,956,674; 5,974,380; 6,487,535 & other U.S. and worldwide patents issued & pending. DTS, the Symbol, & DTS and the Symbol together are registered trademarks & DTS 2.0 Channel is a trademark of DTS, Inc. © DTS, Inc. All Rights Reserved.

The terms HDMI and HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.

DivX Certified ® to play DivX ® video up to HD 1080p, including premium content.

DivX®, DivX Certified® and associated logos are trademarks of Rovi Corporation or its subsidiaries and are used under license.

ABOUT DIVX VIDEO: DivX® is a digital video format created by DivX, LLC, a subsidiary of Rovi Corporation. This is an official DivX Certified® device that has passed rigorous testing to verify that it plays DivX video. Visit divx.com for more information and software tools to convert your files into DivX videos.

ABOUT DIVX VIDEO-ON-DEMAND: This DivX Certified® device must be registered in order to play purchased DivX Video-on-Demand (VOD) movies. To obtain your registration code, locate the DivX VOD section in your device setup menu. Go to vod.divx.com for more information on how to complete your registration.

Covered by one or more of the following U.S. patents: 7,295,673; 7,460,668; 7,515,710; 7,519,274

Open Source Licence Notice

In the case of using open source software, Open Source Licences are available on the product menu. Open Source Licence Notice is written only English.

For information on the Open Source License Notice, contact the Samsung Customer Center or send email to oss.request@samsung.com.

# Terminology

**480i / 480p / 720p / 1080i / 1080p**_____ Each of the scanning rates above refers to the number of effective scanning lines that decides the screen resolution. The scanning rate may be indicated in i (interlaced) or p (progressive), depending on the scanning method.

- Scanning

Scanning refers to a process of sending pixels that form an image progressively. A larger number of pixels will deliver a clearer and more vivid picture.

- Progressive

In progressive scan mode, all lines of pixels are scanned one by one (progressively) on the screen.

- Interlaced

In interlaced scan mode, every other line of pixels is scanned from top to bottom first and then the remaining lines of pixels (that were not scanned) are scanned.

**Non-interlace Mode and Interlace Mode**_____ Non-interlace mode (progressive scan) displays a horizontal line from the top to the bottom of a screen progressively. Interlace mode displays the odd number lines first and the even number lines next. Non-interlace mode is mainly used in monitors as it produces screen clarity and interlace mode is mainly used in TVs.

**Dot Pitch**_____ The screen consist of red, green and blue dots. A shorter distance between the dots produces a higher resolution. Dot pitch refers to the distance between the shortest distance between dots of the same color. Dot pitch is measured in millimeters.

**Vertical Frequency**_____ The product displays a single image many times per second (like a fluorescent light that flickers) to display an image for a viewer to see. The rate of a single image being displayed repeatedly per second is called vertical frequency or refresh rate. Vertical frequency is measured in Hz.

E.g. 60Hz refers to a single image being displayed 60 times in one second.

**Horizontal Frequency**_____ The time required to scan a single line from the left to the right side of the screen is called a horizontal cycle. The reciprocal number of a horizontal cycle is called horizontal frequency. Horizontal frequency is measured in kHz.

**Source**_____ Input source refers to a video source device connected to the product such as a camcorder or video or DVD player.

**Plug & Play**_____ Plug & Play is a function that allows the automatic exchange of information between a product and PC to produce an optimum display environment. The product uses VESA DDC (international standard) to execute Plug & Play.

**Resolution**_____ Resolution is the number of horizontal dots (pixels) and vertical dots (pixels) that form a screen. It represents the level of display detail. A higher resolution enables more data to be displayed on the screen and is useful to perform multiple tasks simultaneously.

E.g. A resolution of 1920 X 1080 consists of 1,920 horizontal pixels (horizontal resolution) and 1,080 vertical pixels (vertical resolution).

**DVD (Digital Versatile Disc)**_____ DVD refers to a CD-sized mass storage disk where you can save multimedia (audio, video or game) applications using MPEG-2 video compression technology.

**HDMI (High Definition Multimedia Interface)**_____ It is an interface that can be connected to a digital audio source as well as a high-definition video source by using a single cable without compression.

**Multiple Display Control (MDC)**_____ MDC (Multiple Display Control) is an application that allows multiple display devices to be controlled simultaneously using a PC. Use RS232C (serial data communication standard) and Wi-Fi to transmit data between the PC and monitor.